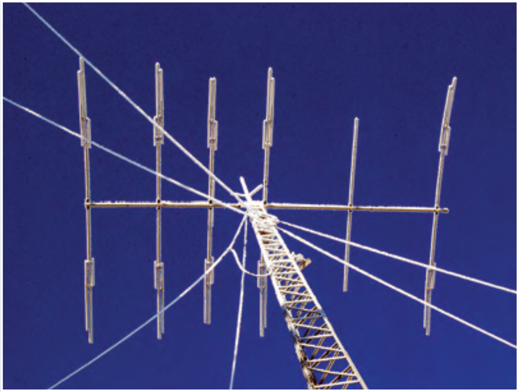
TCA
The Canadian Amateur

Canada's Amateur Radio Magazine
La Revue des Radioamateurs Canadiens
MARCH / APRIL – MARS / AVRIL 2015

The QRP Issue: "Less is More..."

RAC Annual General Meeting: Saturday, July 4 at the Saskatchewan Hamfest



"We had a bit of hoarfrost which made the antennas stand out against a clear, blue sky."

The Portable Multiband Dipole: Antenna in Vee configuration during testing

"Been there, done that, got the antenna..."

Bob MacKenzie, VA3RKM, enjoying winter operating

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Welcome to the Special Issue on QRP

Dave Green, VE3TLY, Bill Karle, VE1YY and Mike, Kelly VE3FFK

While tuning the bands, most of us have heard stations, often quite weak, that identify with the "/QRP" suffix. QRP refers to stations that transmit with five watts output or less – and often much less. You may ask yourself, what is the point of QRP and why do so many Amateurs participate in it? This special issue of TCA hopes to explain the attraction of QRP which hinges on three main themes: technical accessibility, operating skill and sheer fun.

We all realize that, from the technical standpoint, commercial Amateur Radio equipment has kept pace with modern electronic technology and is characterized by ultra-miniaturization and the extensive use of microprocessors.

Decades ago, when hams removed the covers from their gear, internal components were usually recognizable, accessible and understood. For modern gear, this is no longer the case for many hams. Modifying and repairing modern radio gear has become a daunting task that requires exceptionally small and agile fingers and spectacular eyesight. An advanced understanding of computer and electrical engineering doesn't hurt either. QRP gear offers an exception.

QRP equipment ranges from the very simple – made from perhaps only a handful of transistors – to the very advanced. It can be homebrewed, built from kits or bought ready-made. The simple stuff can be home-designed and home-built using familiar techniques. It can provide an opportunity for the Amateur to safely explore the fundamentals of radio electronics at a low cost. Examples of advanced QRP gear may include software defined receivers and transceivers. There are many other examples that fall within this range of complexity. The point is, there is QRP gear to match your skill level and budget.

Operating a five-watt station is different than a "kilowatter". Understanding the basics of propagation is a first step in knowing where and when to operate. Successful QSOs at these low power levels depend on good operating practice which, when learned, will improve all of your on-air activity.

This special issue of TCA contains articles that touch on some of these aspects of QRP. We thank all the authors for agreeing to participate in this project.

"QRP Operating: Less is More" by Tom Hardy, VE4AKI, is a good "starters guide" for operating the bands with low power. Tom compares different operating modes for effective QRP and offers tips based on his experiences with CW and SSB. He also explains how he has successfully operated DX with QRP. Tom is an enthusiastic QRP advocate and his article may very well make you one as well.

"Is Life Really Too Short for QRP?" is a personal look at the nature of QRP by Robert MacKenzie, VA3RKM. Bob was attracted to QRP for the usual reasons: it's fun, you make good friends, and you learn a lot. It's hard to argue with that. Bob talks about some of the events, clubs and publications that draw QRPers together.

Bill Karle, VE1YY, captures the sheer enjoyment of trying something different (for him) in Amateur Radio. In his article "OOT 'Finds' QRP", Bill, the "OOT" (Old Old Timer) a self-confessed born again QRPer describes how he "discovered" QRP after years of conventional Amateur Radio activity. He explains how his interest in QRP developed and how he incorporated that interest into his love of RV camping. With an off-the-shelf transceiver, a homebrew antenna and a miniature paddle all packed into a small plastic travel case, he is all set to roll.

Norm Rashleigh, VE3LC, gives us an upbeat guided tour of his experiences with the construction and use of an SDR QRP transceiver in "My Little Peaberry QRP SDR Transceiver: What a Gem". Norm built this little moderately priced radio from a kit, but it can also be purchased assembled. The radio connects through a USB interface to a PC running the freely available HDSDR software. It readily supports SSB and most digital modes but operating CW does require some "creativity". In case you underestimate the capability of QRP, Norm has been copied around the world using WSPR on 20m. He also explains that If you wish to go beyond QRP with the Peaberry, it can be easily interfaced to a linear amplifier.

Good antenna systems are fundamental for all Radio Amateurs and are of particular importance for low power operation. We are very pleased to include in this special issue a contribution from David Conn, VE3KL, the author of the former TCA column "Antennas & Transmission Lines". In "Overview of Transmitting Antennas for QRP Operation", David presents a clear analysis of the factors that are important in selecting a QRP antenna and supports his approach with several examples.

In his second article in this special issue, "The Portable Multiband Dipole", Tom Hardy, VE4AKI, describes a custom, low-cost antenna for portable QRP use. It is a shortened dipole with replaceable loading coils and capacity hats for different bands. Tom walks you through the design, construction and tuning process that led to a functional antenna. Tom's article demonstrates yet again the fun and pleasure of developing your own QRP gear.

As part of the effort to compile this special issue, Bill Karle, VE1YY, has prepared a list of references for material that you might wish to explore for low power operation. The list is representative and is not meant to be exhaustive.

We wish to thank the regular TCA columnists who have agreed to step aside to make room for this series of special articles. Their columns will return in the coming issues.

We also wish to thank the members of the RAC Board and National Executive who have agreed to the additional cost of using higher quality print production for this issue of TCA magazine to make it even more special. It is very much appreciated.

We hope that you enjoy reading this special issue on QRP and hope that it may inspire you to explore yet one more way to take pleasure in our wonderful hobby.

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"The question 'Why operate QRP?' is not an easy one to answer. I sometimes even pose it to myself when repeating my call sign for the 12th time trying to make a DX contest contact with five watts worth of SSB." – see pages 1, 10, 14, 18, 24, 29, 36 and 44 for the rest of the story.

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ARTICLES WANTED

We would love to receive your articles – both technical and non-technical. Please send them to the TCA Editor at tcamag@yahoo.ca. The deadlines for the next two issues of TCA are March 15 and May 15.

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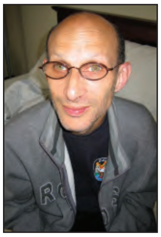

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Silent Keys – In Memoriam

With regret, we record the passing of these Amateur Radio operators.
Nous avons le regret de vous annoncer le décès des radioamateurs suivants.

VA3GEL – George Lawrence, of Guelph, ON, at age 87, on March 18, 2014.

VA7JCB – Doug Baxter, of West Vancouver, BC, at age 67, on February 28, 2014.

VE1ALU – Harold Sabean, of Halifax, NS, at age 90, on December 26, 2014.

VE1AQU – Warren Spicer, of New Glasgow, NS, at age 90, on November 22, 2014.

VE1BHK – Donnie Locke, of Brookfield, NS, at age 87, on December 26, 2014

VE1GS – René Deschenes, of Richibouctou-Village, NB, at age 88, on December 24, 2014.

VE1LYN – Lyn MacDonald, of St Peter's, NS, at age 69, on December 27, 2014.

VE1TJM – Tom McDonald, of Truro, NS, at age 84, on December 10, 2014.

VE2VW – Bob Benson, of Westmount, QC, on December 25, 2014.

VE3BHZ – David Lott (VA3FOC), of Cambridge, ON, at age 84, on December 4, 2014.

VE3BOQ – Bill Mongor, of Morrisburg, ON, at age 94, on December 17, 2014.

VE3IIA – Lloyd Swackhammer, of Guelph, ON, at age 93, on November 20, 2014.

VE3IQ – Jim Dean, of Ottawa, ON, at age 77, on January 3, 2015.

VE3KYW – Ralph Greco, of Niagara Falls, ON, at age 80, on November 2, 2013.

VE3MAZ – Ken West, of Niagara Falls, ON, at age 71, on November 7, 2013.

VE3MJD – Brian Seed, of Ottawa, ON, at age 89, on November 29, 2014.

VE3SQW – Ken Head, of Sarnia, ON, at age 85, on November 25, 2014.

VE3VRJ – Ronald Jeffery, of Dunnville, ON, at age 85, on December 6, 2014.

VE3WUN – Ed Williams, of Sudbury, ON, at age 74, on January 27, 2013.

VE3WWJ – Bill Willard, of St. Catharines, ON, at age 53, on November 25, 2014.

VE4DB – Glenn Dodd, of Winnipeg, MB, at age 90, on December 9, 2014.

VE5CA – Bernard Clarkson, of Stoughton, SK, at age 90, on June 26, 2014.

VE6AAB – Karin "Omie" Moller, of Sherwood Park, AB, at age 89, on December 22, 2014.

VE7DCC – John Chapman, of Pender Island, BC, at age 83, on December 8, 2014.

VE7EFG – George Buckle, of Kelowna, BC, at age 85, on December 7, 2014.

VE9GK – Gilbert Kierstead, of Riverview, NB, at age 91, on December 4, 2014.

Correction: There was an error in the Silent Key list in the last TCA. Here is the correct information: VE3RJD – Ralph Darlington, of Keswick, ON, at age 90, on October 30, 2014.

*Note: In the above list an * indicates that a call sign has been reissued. The list of Silent Keys is prepared by volunteers at RAC Headquarters at rachq@rac.ca. Due to a computer failure we are only able to provide a partial list in this issue.*

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Feedback: Readers write to The Canadian Amateur

THANK YOU

I was reading the article by Larry Reid, VETLR (now deceased) in the January-February 2015 issue of TCA (page 24) and enjoyed it very much. (I have subscribed to TCA for years and QST before.) In the last sentence of paragraph one (on page 24) is noted: "Undoubtedly, there were others elsewhere in the country at or before this time (1904)."

I thought I would tell you about my father Ralph Letts who in 1905, at age 12, set up his own Amateur Radio station in his parent's home at 18 Evans Street in Montreal (call sign AR) and said (at the time) to be one of the first such Amateur stations in the Montreal area. In 1920, Ralph moved to Halifax with the Marconi Company and, among other activities, set up his station (shack) in the basement of his home, now with the call sign VE9AZ. (I have no idea when, where or how he got that particular call.) In 1922, Ralph was transferred to Montreal with the Marconi Company on William Street but did not have time to do Amateur Radio. By 1943, Ralph was Manager of Engineering Services at the company.

During these early years, Ralph's brother Tommy Letts, who was employed by Quebec Hydro and lived in Longueil, was also a well respected Ham (call VE2BG). In fact, when he became a "silent key'' in 1974, the Montreal Amateur Radio Club established a Repeater Station (call sign VE2BG) in his memory ("73s and pip-pip" Tommy would say!). My brother, also Tom, received his call sign VE2KB in 1938. Unfortunately he became a "silent key" early in WWII.

Thus my connection to this history is an honest one. I received my licence VE2AHL in 1946 and have been intermittently active ever since. I have built "breadboard" transmitters, several Heathkits (HW-101 and SB-200), and my own design "stand-up" 807 - 813 transmitter. I have used 3-element Triband beams, dipoles and longwire antennas. Luckily, at one point I had a 3-element Cushcraft on top of a 10-story condo! (At the time, I happened to be on the Board of Directors!)

Now I am 85 years young, long retired and presently on the 11th floor of a condo in Gatineau, Quebec with a Kenwood TS-570 (call sign VA2AKL), but alas and alack no decent antenna yet! I hope your readers might find this brief story of some interest, if not unusual, or maybe not!

Harry Letts, VA2AKL
Gatineau, Quebec

MANITOULIN ISLAND

McLean's Mountain is not the highest point on Manitoulin Island as stated in the article "VA3RAC Operates on Canada Day from Manitoulin Island" on page 42 of the January-February 2015 TCA. It is the likely the highest vehicle accessible point, but the Cup and Saucer lookoff takes that honour.

Those from the south, may not realize that so you are excused. :-)

Cup and Saucer
Height: 1155 feet / 352 metres
GPS recorded height: 1171 feet / 357 metres
Lat/Lon: N45 51.000 W82 06.370

Don MacQueen, VE1DH
Truro, Nova Scotia

THANKS FOR HELLSCHRIBER

A message to Dirk Moraal, VY1NM
(TCA's "Random Thoughts" columnist)

I first made contact with you through the Trans Canada Pow Wow Club back in 2011. I get many chuckles from friends over your Nasty Mosquito QSL card.

I am writing this in regards to your last article on HellSchriber in your December 2014 "Random Thoughts". Reading your column and putting your experience into use with Hell has prompted me to once again take up HF digi.

My first off-shore contact on digital was to Puerto Rico a couple days ago on RTTY using the digi program called Fldigi.

Thanks for your Random Thoughts on HellSchriber.

With Hell it was import, just as you said, to move my Delay on SignaLink to about the 10 o'clock position to get away from the computer clacking. But more important the receive station finally got full words without any dropped letters.

I don't have Fat Hell with my Fldigi but Feld Hell works fine – perhaps Slow Hell would be another option if needed.

So thank you Dirk for getting me onto another mode that I never heard before. I enjoy your column. You seem to be my kind of guy. I worked 35 years in the bush before I retired from forestry. I then went back for another six years developing private timber for registered Wood Lots applications. Now unfortunately I am out to pasture with a gimpy knee.

Bill Anderson, VE7KDK
Armstrong, British Columbia

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HELP WANTED

Treasurer

The Radio Amateurs of Canada is looking for a Treasurer who is a Chartered Accountant, Certified General Accountant or Certified Management Accountant. A certification in Amateur Radio is optional. As RAC's financial advisor, we need someone to provide direction on the accounts and act as liaison with the external auditors. Experience with QuickBooks would be an asset.

Radio Amateurs of Canada is a non-profit corporation providing services to members and has a mandate to enhance Amateur Radio in Canada.

Please speak with your friends; there must be a RAC member who either qualifies or can approach someone for this volunteer position. Certification in Amateur Radio is not a requirement for this position.

Interested parties please contact the RAC Corporate Secretary at ve3cwp@rac.ca.

Alvin (Al) Masse, VE3CWP
RAC Corporate Secretary

Deadlines for TCA

May-June 2015: March 15
July-August 2015: May 15

Please send all submissions
by email to the Editor at:
tcamag@yahoo.ca
Or by mail to:
The Editor
720 Belfast Road, Suite 217
Ottawa, ON K1G 0Z5

Geoff Bawden, VE4BAW
204-257-1414
ve4baw@rac.ca

AN UPDATE ON RAC'S INTERNATIONAL ROLE

One of the most important reasons for Radio Amateurs of Canada to exist is its role internationally with our regulator (Industry Canada (IC)), the International Telecommunications Union (ITU), and the International Amateur Radio Union (IARU).

The ITU sets the framework for the allocation and use of frequencies around the world.

What happens at the ITU – a United Nations (UN) agency – and at World Radiocommunication Conferences (WRC) is critical for Amateur Radio. RAC has had a presence at every WRC and continues to work closely with our regulator (now Industry Canada), the IARU and other national societies to protect and expand Amateur frequencies. Members of the ITU are sovereign states, with the IARU as an official observer. Since 1992, RAC has participated in ITU meetings and WRCs through IC as a delegate within the Canadian delegation.

Those reading *The Canadian Amateur* over the years will recognize names such as Jim Dean, VE3IQ, Ken Pulfer, VE3PU and Bryan Rawlings, VE3QN, who have worked hard on behalf of RAC and Amateurs in Canada to represent our interests to IC and in the ITU WRC processes. Working with our sister societies through the framework of IARU, we provided leadership on a wide range of files from the outward migration of the shortwave broadcasters and expansion in the 40m band to recent new bands at 137 kHz and 472 kHz. Internationally, RAC is respected and viewed as a leader due to our consistent interface with IC and our work in ITU Working Groups and our presence at World Radio Conferences.

To get work done always requires resources and, while our volunteers work *pro bono*, our presence at WRCs costs money to support travel and lodging at formal meetings in Geneva, Switzerland or other locales. Several forward thinking hams established a trust in 1989 to hold funds to ensure that Canada's national Amateur Radio society could participate on this international stage.

This fund, the Defence of Amateur Radio Fund (DARF), has funded the presence of the RAC representative from 1992 to this day. DARF Trustees oversaw the funds and authorized expenditures to support the RAC representative working this file. RAC publicized and administered raising the funds, set the policy objectives for frequency needs of Canadian Amateurs and nominated the representative to Industry Canada. The current trustees are Gerry Hohn, VE6LB and Dave Snydal, VE4XN, who have worked very hard over the years to ensure that there was funding for the RAC representatives to be able to participate in WRC formal meetings.

UNE MISE À NIVEAU DU RÔLE INTERNATIONAL DE RAC

Une des raisons importantes justifiant l'existence de Radio Amateurs du Canada est son rôle international exercé conjointement avec Industrie Canada (IC) à titre de régulateur, auprès de l'Union internationale des télécommunications (UIT-ITU) et de l'Union internationale radioamateure (UIRA - IARU). L'UIT est responsable de la structure pour l'allocation et l'utilisation des fréquences partout au monde.

Qu'est-ce qui fait que l'UIT – une agence des Nations unies (UN) – et les Conférences mondiales en radiocommunication (WRC) sont si importantes pour la radio amateur ? RAC a toujours été présent aux conférences de la WRC et continue de travailler en étroite collaboration avec notre régulateur (Industrie Canada), l'UIRA et d'autres associations pour protéger et accroître le réseau des fréquences. Les membres de l'UIT sont des pays souverains et l'UIRA à titre d'observateur officiel. Depuis 1992, RAC participe aux réunions de l'UIT et de l'WRC par l'intermédiaire du ministère IC, à titre de délégué au sein de la délégation canadienne.

Ceux qui lisent « The Canadian Amateur » depuis des années se rappelleront le nom d'amateurs comme Jim Dean, VE3IQ, Ken Pulfer, VE3PU et Bryan Rawlings, VE3QN, qui ont travaillé fort au nom de RAC et des amateurs au Canada pour défendre nos intérêts devant IC et au cours des activités de l'UIT et de l'WRC. En travaillant avec nos sociétés soeurs dans la structure de l'UIRA, nous avons démontré notre leadership dans beaucoup de domaines depuis la décroissance des diffuseurs sur ondes courtes, l'expansion du 40 mètres et la croissance des nouvelles bandes de 137 kHz à 472 kHz. Sur le plan international, RAC inspire le respect et est perçu comme un leader en raison de son rôle d'intermédiaire entre le ministère IC, les groupes de travail de l'UIT et sa présence aux conférences de World Radio (WRC)

Bien accomplir un travail demande des ressources. Pendant que nos bénévoles travaillent pour le bien public, notre présence aux réunions de la WRC coûte de l'argent. Nous devons payer pour le voyage et l'hébergement liés à notre présence aux réunions officielles à Genève en Suisse ou en d'autres endroits. Plusieurs amateurs prévoyants ont mis sur pied une fiducie en1989 afin de prévoir les fonds nécessaires à la participation de la Société nationale radioamateure du Canada à ces rencontres internationales.

Ce fonds de défense radioamateure (DARF), a permis la présence d'un représentant de RAC depuis 1992 jusqu'à maintenant. La fiducie DARF prévoit, d'une part, le financement nécessaire et autorise, d'autre part, les dépenses pour soutenir le représentant de RAC travaillant sur ce dossier. RAC fait la promotion et administre les levées de fonds, établit les objectifs politiques répondant aux besoins des fréquences des amateurs canadiens et nomme le représentant à Industrie Canada. Les fiduciaires actuels sont Gerry Hohn, VE6LB et Dave Snydal, VE4XN. Ils ont travaillé très fort au cours des dernières années pour faire en sorte d'avoir assez de fonds pour permettre aux représentants de RAC de participer aux réunions formelles de la WRC.

En janvier 2015, RAC est devenu responsable de l'administration du DARF. Le pourquoi du fonds et les conditions de son utilisation demeurent les mêmes. RAC continuera d'envoyer un représentant

In January 2015, RAC took over the administration of DARF. The purpose of the fund and the restrictions on how the funds may be used are unchanged. RAC will continue to send a representative to WRC and selected preparatory meetings and continue its long tradition of leadership internationally in promoting, protecting and expanding Amateur Radio frequencies.

This change shows confidence in RAC and its future and recognition of the need to continue to ensure that Canada's Amateurs, as represented by its national society, continue to internationally promote, protect and expand Amateur Radio.

JIM DEAN, VE3IQ (SK)

As many of you know, Jim Dean, VE3IQ, became a Silent Key on January 3, 2015 in Ottawa at the age of 77.

Jim was a pillar of RAC for many years and his counsel was sought by a great many in the Amateur community, both nationally and internationally.

Among his many roles he served internationally as our man in Geneva for WRC conferences, domestically as a Canadian Amateur Radio Advisory Board (CARAB) liaison and an advisor to many RAC Presidents including myself. I will miss him.

A tribute to Jim is provided on page 12 of this issue of TCA.

Geoff Bawden, VE4BAW – RAC President and Chair

……

au conférences de la WRC et décidera des réunions préparatoires de manière à poursuivre sa longue tradition de leadership international en matière de promotion, protection et développement des fréquences radioamateures.

Ce changement traduit une confiance en RAC et en sa vision de l'avenir en ce qui concerne la nécessité pour les amateurs canadiens, par l'intermédiaire de leur société nationale, de poursuivre la promotion, la protection et l'expansion du radioamateurisme.

JIM DEAN, VE3IQ (SK)

Comme plusieurs d'entre vous le savent, Jim Dean, VE3IQ, est devenu une clé silencieuse le 3 janvier 2015 à Ottawa; il avait 77 ans.

Jim a été un pilier de RAC pendant plusieurs années; ses conseils étaient recherchés par plusieurs dans la communauté amateure tant nationalement qu'internationalement.

Parmi les nombreuses fonctions qu'il a exercées au plan international, il faut souligner qu'il était notre homme de confiance aux conférences de la WRC à Genève et, au plan national, notre liaison avec le « Canadian Amateur Radio Advisory Board » (CARAB) et conseiller de plusieurs présidents de RAC dont moi-même. Il me manquera.

La présente édition de TCA, à la page 12, rend hommage à Jim.

Geoff Bawden, VE4BAW
RAC Président-directeur général

– Traduction par Claude Lalande, VE2LCF. Merci Claude!

RAC SCHOLARSHIPS 2014

Once again in 2014, Radio Amateurs of Canada was able to grant three scholarships to Amateurs across Canada who are studying at the post-secondary level in Science, Technology, Engineering and Mathematics (STEM) fields.

Thanks to the generous contributions of Amateurs across Canada, Radio Amateurs of Canada, in partnership with the Community Foundation of Ottawa, was able to grant $500 to students across Canada to further their studies in STEM subjects.

The first recipient of a scholarship is Sonja Andersson, VA7SAA (top photo), who is enrolled in the Electronics Technician Program at the British Columbia Institute of Technology in Burnaby, British Columbia.

The second recipient was Thomas Walter, VA3WTR (middle photo), who is studying at the Sheridan College Institute of Technology in Oakville, Ontario.

The third recipient is Brad Lane, VE9BML (at right), who is enrolled in the Electrical Engineering program at the University of New Brunswick.

All of the recipients noted in their application that Amateur Radio gave them further insight to their studies and allowed a more hands-on approach that complemented their academic studies.

In addition to the scholarship program RAC also has a Youth Education Program (YEP).

It is the wish of the RAC Board of Directors that these two programs work closer together to provide mentoring and financial assistance in STEM programs from elementary to the post secondary level. Look for more information coming on these developments.

Brian Jackson, VE6JBJ
Chair, Youth Education Program

Bill Unger, VE3XT
Chair, Scholarship Program

ANNUAL GENERAL MEETING

RADIO AMATEURS OF CANADA INC.

The Radio Amateurs of Canada is pleased to hold its Annual General Meeting (AGM) in Martensville, Saskatchewan. The AGM event will be hosted by the Meewasin Amateur Radio Society and will be held in conjunction with the 2015 Saskatchewan Hamfest which is being held at the same location. All RAC members are encouraged to attend the Annual General Meeting.

Date: Saturday, July 4, 2015

Time: 10:30 am (Central Standard Time)

Place: The Annual General Meeting will be held at the Northridge Community Centre, 901 3rd Street North, Martensville, Saskatchewan (see below for more information).

Agenda items will include:

- Report of the President
- Review of the 2014 finances
- Appointment of auditors for 2015

A Question and Answer period will follow the AGM proceedings.

This is your opportunity to hear what your representatives have been doing over the past year, to raise questions, and to make suggestions about how RAC is managed and where it is going in the future.

The meeting will be attended by some of the members of the RAC Board of Directors and Executive and is open to all RAC members. In addition there will be a planned Webinar which RAC members can attend remotely.

For more information about the 2015 Saskatchewan Hamfest please see the article below or visit:
http://www.meewasin-ars.ca/

ASSEMBLÉE GÉNÉRALE ANNUELLE

RADIO AMATEURS DU CANADA INC.

Radio Amateurs du Canada est heureux de tenir son Assemblée générale annuelle (AGM) à Martensville, Saskatchewan. L'hôte de l'AGM est la Meewasin Amateur Radio Society qui organisera l'événement en collaboration avec le Hamfest 2015 de la Saskatchewan lequel se tiendra au même endroit. Tous les membres de RAC sont invités à participer à l'Assemblée générale annuelle.

Date : samedi, le 4 juillet 2015

Heure : 10h30 (heure normale centrale)

Lieu : l'Assemblée générale annuelle se tiendra au Northridge Community Centre, 901, 3ième rue nord, Martensville, Saskatchewan (voir ci-dessous pour plus d'informations).

L'ordre du jour inclura :

- le rapport du président;
- la revue des états financiers de 2014
- la nomination du vérificateur pour 2015

Une période de questions et réponses suivra les activités de l'AGM.

Voici votre chance d'entendre vos représentants vous dire ce qu'ils ont accompli au cours de l'année dernière, poser des questions, faire des suggestions sur la gestion de RAC et connaître ses intentions futures.

Plusieurs membres du Conseil d'administration et de l'Exécutif de RAC participeront à l'Assemblée, à laquelle tous les membres de RAC sont bienvenus. De plus, des membres de RAC pourront participer à l'assemblée à distance au moyen d'un Webinar prévu à cet effet.

Pour plus d'informations sur le Hamfest 2015 de la Saskatchewan, s'il vous plaît voir l'article ci-dessous ou visiter:
http://www.meewasin-ars.ca/

2015 SASKATCHEWAN HAMFEST

The Meewasin Amateur Radio Society is pleased to host the Annual General Meeting of Radio Amateurs of Canada in conjunction with the annual Saskatchewan Hamfest. The Saskatchewan Hamfest will be held as a three-day event from July 3 to 5.

Place: Northridge Community Centre, 901 3rd Street North, Martensville, Saskatchewan (9 kilometres north of Saskatoon on Highway 12)

The schedule for the Hamfest is as follows:

Friday: The registration and a Meet & Greet will be held at 6 pm.

Saturday: The fleamarket opens to the public at 9 am. Vendors can set up at 8 am. All tables must be reserved ahead of time.

Sunday: The doors to the event will open at 8 am.

Cost: The admission to the fleamarket is $25 per person (in advance) for all three days. Tables cost $10 each. There is there is a limited amount of tables and they are on a first come, first served basis.

Talkin: VE5CC Repeater 146.970 (-600) 100.0 Hz Tone or the VA5DR Repeater 448.125 (-5M) D-STAR.

Please visit the club's website for updated information at:
http://www.meewasin-ars.ca/

LE HAMFEST 2015 DE LA SASKATCHEWAN

La Meewasin Amateur Radio Society est heureuse d'accueillir l'Assemblée générale annuelle de Radio Amateurs du Canada en collaboration avec le Hamfest annuel de la Saskatchewan.
Le hamfest durera trois jours, du 3 au 5 juillet.

Lieu : Northridge Community Centre, 901 3ième rue nord, Martensville, Saskatchewan (9 kilomètres au nord de Saskatoon en bordure de l'autoroute 12)

L'agenda du hamfest est comme suit :

Vendredi : enregistrement, accueil et rencontre à 18h00.

Samedi : le marché aux puces ouvre ses portes au public à 9h00. Les vendeurs peuvent entrer et s'installer à partir de 8h00. Toutes les tables doivent être réservées à l'avance.

Dimanche : les portes ouvrent à 8h00.

Coût : L'admission au marché aux puces est de 25 $ par personne (payable d'avance) pour les trois jours. Les tables sont au coût de 10 $ chacune. Le nombre de tables est limité et la règle du premier arrivé, premier servi prévaudra.

Contacts radio : répéteur VE5CC à 146.970 (-600) tonalité 100.0 Hz ou répéteur VA5DR à 448.125 (-5M) D-STAR.

Veuillez, s.v.p. visitez le site web du club pour les dernières informations : http://www.meewasin-ars.ca/

– Traduction par Claude Lalande, VE2LCF –

QRP Operating: Less is More

Tom Hardy, VE4AKI

Have your HF contacts become dull? Has HF operation lost its spark? Has checking into nets become too routine? Looking for something new? Why not try QRP?

QRP is the international Q signal for “shall I reduce power”. Just what power level is considered QRP? Most QRPers consider five watts output (10 watts PEP) or less QRP. Most modern transceivers will operate at this level on CW by turning down the gain control. Some transceivers have a gain control that adjusts the power level in CW and SSB modes. If not, the microphone gain can be lowered to reduce the output for SSB operation. An accurate wattmeter that reads at this level is very desirable.

Do I need to change any other parts of my station to operate QRP?

If you have had good results with your present system you should get good results with QRP. The two most important components in your system are the antenna and your operating technique. A gain type of directional antenna would be best, but a dipole mounted in the clear will bring good results. Be sure to use low loss feedlines as every watt counts. Keep power-robbing devices such as antenna switches and antenna matching units to a minimum.

The most popular mode is CW. A weak CW signal is often copyable when an SSB transmission of similar strength is unintelligible – but good results can be had on SSB as well if you prefer that mode. The most critical factor is operating technique. The two most important tools in your operating toolbox are your ears and patience.

Listening to determine band conditions and propagation, as well as checking WWV, will prevent wasting time on a poor band. Calling CQ can be productive, but listening and calling stations you want to contact will be more productive. When operating CW use a code speed of eight to 12 words per minute (WPM) and repeat your call two or three times when establishing a contact. Don’t hesitate to mention that you are QRP as it may encourage the other operator to pull you through if conditions are poor. It also provides for an interesting topic of discussion. Give honest signal reports if you expect to get the same.

Popular frequencies used by QRP operators are: 3.560, 7.030, 7.040, 10.106, 14.060, 18.096, 21.060, 24.906, and 28.060. Of course any frequency your licence allows can be used as well.

***Note:** this article was previously published in the Winnipeg ARC’s “Newscaster” and is being reprinted with their permission.*

If you choose to run QRP on SSB there are some techniques you should be aware of.

It is important that you have correct microphone technique. Speak clearly and slowly at the correct distance from your microphone.

A speech processor may be beneficial but it is important to get some accurate audio reports on the clarity of your transmissions. Use clear phonetics, preferably the standard format for important information. Audio clarity is of utmost importance for success with QRP on SSB.

Is it possible to work DX with QRP?

Operating a station with a handicap of two to three S units is definitely a challenge but very satisfying results can be achieved. Five watts of RF, an effective antenna and lots of listening has resulted in all 50 US states worked on CW, 97 “countries” worked on CW and 66 “countries” worked on SSB (10 watts peak envelope power or PEP).

The most productive technique here is listening. Listen for the weak signals, listen for the distinctive warble that DX stations often have. Listen for stations tuning up and checking the frequency. Being first in line to call will improve your chance of a contact. If you run into a pileup don’t give up. Listen to how the DX operator works the pileup. Does he answer the loudest signals? The tailenders? Is he working by call areas or by numbers? Is he working split? Study his techniques and figure out a strategy that you think will improve your chances. It may take many calls but persistence will often bring results.

If you are not successful try listening at the same time and frequency for the next few days. There will often be a second chance.

Most of all operate and enjoy the contacts you make. Share a bit of yourself with each person you contact and you will be rewarded by many enjoyable QSOs.

The best band to get started with QRP operation is the 30 metre band. This band is open nearly around the clock to North America and open to other parts of the world at optimum times. With a maximum power limit of 250 watts, your QRP signal stands a much better chance of being heard.

Putting up a horizontal dipole, sloper or ground mounted vertical is easily accomplished on the average city lot. Many multiband antennas will also work on 30 metres. Spend a bit of time listening on the band to get a feel for its characteristics.

I have found that late afternoon and early evening seem to be optimum for both local and DX contacts. Don't ignore the early morning hours if you can work it into your schedule.

For your first few contacts try calling CQ or other stations with an output power of 25 watts. Once you get your feet wet at this level cut your power to 10 watts and make a few more contacts. By this time you will have developed a feel for this band. You will have found as well that you can make and maintain contacts with little difficulty at this power level. Now comes big time QRP.

From your experience so far pick a time when you have favourable propagation and little interruption. Drop your power to 5 watts and check the band from 10.100 to 10.125. You will notice pockets of activity every few kilohertz.

Listen carefully around 10.106 as this is where many other QRPers hangout. Listen for a station calling CQ in the clear and at a sending speed that you are comfortable with. When the station signs call him (or her) at a speed no faster than you are good a copying. End your call with /QRP then listen carefully. If the station calls CQ again don't give up, call again. Often the stations you call are not listening for weaker signals so try a few times. If you get no response listen around for other signals and try again. It is usually more productive to answer CQs when you operate QRP.

You may wish to try calling CQ yourself. I suggest you initially call CQ on popular QRP frequencies such as 7.040, 10.106, 14.060 etc. as you will more likely make contacts there. QRP operators are more likely to be listening for weaker stations. Keep your CQs short, say 3 x 3; that is, three CQs and your call three times.

Many QRP operators use the /QRP after their call to indicate they are operating at low power. Be patient. You have to work harder when you are at a 10 to 12 db disadvantage. A bit of persistence will be rewarded with success and the satisfaction that results from this new challenge.

Share your experiences in operating QRP with your contacts. If they are also QRP ask about their equipment and antennas. Their experience can be used to point the way to maximize your QRP station and its operation. Take satisfaction in being able to make contacts with minimum power. Accepting this challenge will improve your operating skills and further advance your understanding of High Frequency propagation.

You may wish to try real low power operating: less than one watt. This is often called milliwatting. Your rig may be capable of operating at this level, but measuring output power at this level accurately is often impossible with most power meters. There are a number of QRP wattmeters available that are designed to work at this level with accuracy. Some are available as kits and I think that is an ideal way to try your hand at constructing a useful addition to your QRP station.

Good luck with QRP. I hope to hear you on the bands.

Tom Hardy, VE4AKI, lives in Winnipeg and is a retired vocational teacher who has been a licensed Amateur for 30 years. He holds an Advanced class licence and is active on all the HF bands as well as 6 metres. He has been involved in QRP activity for over 20 years, both CW as well as SSB. "I enjoy designing and building all kinds of ham equipment especially antennas. I live on a small city lot and am currently concentrating on limited space antennas."

TCA

"A BIT OF HOARFROST..."

"We had a bit of hoarfrost which made the antennas stand out against a clear, blue sky. At one point, the RF stopped going out, however, but once the hoar frost fell off, the world, fortunately, returned to normal."

– Bj. Madsen, VE5FX

A TRIBUTE TO JIM DEAN, VE3IQ: "AN OFFICER AND A GENTLEMAN"

Jim Dean, VE3IQ SK – 1937 to 2015

Prepared by Doug Leach, VE3XK

Jim Dean, VE3IQ, grew up in Toronto. He began his 60 years in Amateur Radio in high school with the call sign VE3DRV. In 1955, he attended the Royal Military College of Canada in Kingston, Ontario where he met Sandra, a nursing student at Queen's University. He graduated in 1959 with a diploma in Electrical Engineering and went on to University of Toronto, graduating with a Bachelor of Applied Science in Electrical Engineering in 1960. Following their marriage, they moved to Halifax, Nova Scotia and then to Victoria, British Columbia in 1961.

As VE7BGK, Jim was posted to the destroyer *HMCS Saguenay* and then to the destroyer *HMCS Skeena*. He was custodian of the Amateur Radio station on each ship. Sons James and Peter were both born in Victoria. Jim received a prestigious selection as one of the few sent to the US Naval Postgraduate School in Monterey, California. He graduated with a Master of Electrical Engineering degree in 1967 and then began a series of postings to Ottawa, Halifax, Ottawa, Halifax and finally back to Ottawa.

While living in Ottawa, Jim commuted weekly to the Canadian Forces College in Toronto and graduated in 1972 before being posted again to Halifax. Following training in Combat Systems Engineering at the Canadian Forces Fleet School in Dartmouth, Nova Scotia, Jim was posted to the destroyer *HMCS Iroquois* as her first Combat Systems Engineer. Now with the call sign VE1ANF, Jim became custodian of that ship's Amateur Radio station. He also provided phone patch service into Halifax from Canadian Forces Station Alert in the Northwest Territories.

In 1974, Jim was back in Ottawa at Headquarters with the new call sign VE3CMV. In 1978 he obtained VE3IQ. As Deputy Program Manager of the Patrol Frigate Program he oversaw the design and delivery of 12 frigates in the 1980s and 1990s (those with city names like *HMCS Calgary*). Jim retired with the rank of Captain (Navy) in 1993 after 38 years of service. For the next 10 years he worked as a consultant and enjoyed Amateur Radio and gardening with Sandra.

In 2001, he sought and regained VE3DRV, his original call sign. An avid builder in the early days, Jim's Amateur Radio interests now became ragchewing and the serious pursuit of DX. He earned DXCC Honour Roll – Phone with 337 of then current 338 entities confirmed – he only needed one more entity for #1 Honour Roll. Jim was in hospital during the Scarborough Reef DXpedition and he was very disappointed that he missed his chance for that last entity. He also had 321 of 338 entities on CW so he was only six entities short for Honour Roll – CW.

Jim became very active with Radio Amateurs of Canada and served on its Executive for many years – first as the Vice-President Government Affairs and then as the Vice-President Regulatory Affairs.

Several of Jim's contributions to RAC and Amateur Radio in general went far above and beyond the job descriptions of those positions.

He was selected as RAC's representative on the Canadian delegation to the International Telecommunications Union's World Radiocommunication Conferences (WRC) in Geneva, Switzerland in 1997, 2003 and 2007. Jim also supported his successor Bryan Rawlings, VE3QN, for WRC-2012, who fondly remembers Jim as follows:

"In the 10 years or so that Jim had worked with Industry Canada and the ITU he had distinguished himself as a thorough and extremely-competent engineer and a model spokesman for Amateur Radio. It was thanks in large part to Jim's work – along with Ken Pulfer, VE3PU (SK) – that the shortwave broadcasters were steered away from further encroachments on the 40 metre band and, ultimately, rolled back in parts of the world.

Jim showed enormous patience with my many questions and volunteered, until very recently, to assist at meetings with Industry Canada and to proofread documents I was called upon to work on. His knowledge of the ITU and its processes still leaves me in awe. He clearly made it his goal to understand all that they did in radio regulation well beyond what was directly relevant to the Amateur issues he was dealing with."

Jim was also a Special Advisor to RAC President Geoff Bawden, VE4BAW and for the Canadian Amateur Radio Advisory Board meetings with Industry Canada.

Jim Dean, VE3IQ (at right) and Ken Pulfer, VE3PU, in Geneva at WRC-2007. Jim was part of the Canadian delegation while Ken was there on behalf of the International Amateur Radio Union.

The simple statement in Jim's online biography that he was "Co-chair (with Industry Canada) of the Amateur Radio Delegation Working Group" from 1993 to 1997 belies the magnitude and scope of that effort. The ADWG was created with the intention of taking over, from Industry Canada, the conduct of all Amateur Radio examinations and the administration of the Amateur Radio Service by a company to be formed called Amateur Radio Administrative Services (ARAS) and its French-language counterpart (SARA). This involved developing, using RAC's volunteer resources, not only the structure but also the itemized multi-year budgets for various scenarios, the rental of office space, advertising, interviewing and hiring of professional staff, and the writing of a procedures manual for the ARAS/SARA Accredited Volunteer Examiners. Jim had many meetings with the ADWG team as well as Industry Canada during this four-year period.

Dinner organized by Industry Canada staff to honour Jim Dean's 60 years as a Radio Amateur. From left are: Dr. Nur Serinken (CRC), Rebecca Guillemette (IC), Chantal Davis (IC), Bryan Rawlings, VE3QN (standing), Jim Dean, VE3IQ, Norm Rashleigh, VE3LC, Gilles Rathier, VE2GRQ (IC), Joanne Thiessen, VE3JOA (IC), Gary Steckly, VE3ZGS, Tom Jones, VE3SFF, Michael Christensen, VE3QMC (IC), Justine Sider (IC) and Christine Hsu (IC). Also at the table but not visible is Rob Cepella, VE3XY (IC).

In addition to his volunteer duties with RAC, Jim was also actively involved with *The Canadian Amateur* magazine. He served on the Board of its publisher CARF Publications, and was a founding member of TCA's Editorial Review Council and acted as its Chair from 2002 until 2008. Jim was TCA's "Regulatory Roundup" columnist from 2005 to 2011, covering the regulatory questions associated with Canadian Radio Amateurs operating in Canada and abroad, as well as visiting foreign Radio Amateurs wishing to operate in Canada.

Jim was a Life Member of the Quarter Century Wireless Association, serving as a Director and then President of the QCWA Chapter 70 in Ottawa. He gave a number of presentations at QCWA meetings including "Spectrum Challenges and Opportunities" at the QCWA 2004 International Convention.

Jim received the QCWA "60 Years Licensed" Anniversary Award in 2013. In response to that event, a number of his Industry Canada contacts hosted a lunch for Jim – a rare honour that confirmed their respect and appreciation.

Serge Bertuzzo, VA3SB, reports that, a few weeks before Jim's death, he helped Jim install a Microham II Keyer as Jim wanted to try RTTY and JT-65 modes. Serge said:

"Jim was so pleased when he managed to make a few contacts. Even with his discomfort, he was still playing with radio. What a guy!"

Jim managed a last shift as Net Controller of the Chapter 70 Weekly FM Net two weeks before his death.

Jim passed away at home on January 3, 2015 after his five-year battle with colon cancer, leaving Sandra, sons James (Karen) and Peter (Jodie) and grandchildren Bethany (Joe Wright) and Jamie, Emily and Allison.

In an online tribute to his father, his son James writes:

"He was a great Dad, teacher of many things, Little League umpire, camper and canoeist. I mean this as the highest compliment I can give: He was not my best friend. He was the best father I could possibly have had... My father was the epitome of an officer and a gentleman."

Those who knew Jim will miss him greatly, but all Canadian Amateurs, not just RAC members, should know that they have lost a giant who contributed so much to Canadian and international Amateur Radio. Rest in Peace Jim.

Jim Dean, VE3IQ, at his home station.

Participants in the annual autumn QRP ChillyCon in Eastern Ontario. Photo courtesy of Ying Hum, VA3YH.

Is Life Really Too Short for QRP?

Robert MacKenzie, VA3RKM

The question "Why operate QRP?" is not an easy one to answer. I sometimes even pose it to myself when repeating my call sign for the 12th time trying to make a DX contest contact with five watts worth of SSB.

In specific cases, it's the restraints of money or RFI that lead Amateurs to run very low power. But apart from such involuntary incentives, the answer to "Why QRP?" parallels that of common responses to the question "Why ham radio?" Because it's fun; because I make good friends; because it teaches me about technology and propagation.

In the 1960s and 1970s, QRP was defined as operating with 100 watts or less. In 1981 the "official" definition was changed to running a maximum of five watts on CW or 10 watts PEP on SSB (five watts for many contests). That's 13 db less than 100 watts, but not a huge drop in received signal strength. Worldwide communication with a simple antenna is not a problem, if conditions permit.

For most QRPers, it's a great adventure to see how far they can reach with their wire antennas and little rigs, which are often kit-built or homebrewed. And given its relatively low power requirement, QRP is ideal for enjoying the outdoors with battery-powered portable operation.

There's something special about working DX from trailside, lakeside or mountainside. Much of the fun of QRP comes from meeting with like-minded devotees.

The annual Dayton Hamvention features the Four Days in May (FDIM) QRP conference where ops can attend seminars, build-a-thons and social events. There are even special sessions offered for long-suffering spouses of Amateurs where they can get together to work on crafts. (I'm not sure I'd like to hear what they say about ham radio while they work!)

Other gatherings include: July's LobsterCon at a family campground in Maine; NearFest in New Hampshire; OzarkCon in Missouri; and ChillyCon here in Eastern Ontario in the cool of late September.

Two of the larger QRP clubs are the US-based QRP Amateur Radio International (QRP ARCI) and the GQRP Club from Great Britain, both of which produce excellent technically-oriented magazines and administer numerous contests and awards.

The North American QRP CW Club (NAQCC) is a newer group, catering to both CW and QRP enthusiasts. The Internet features a variety of discussion groups on QRP subjects, of which QRP-L is a leader in terms of general discourse.

Technical experimentation has always been a hallmark of QRP. This is nowhere better exemplified than in the Elecraft K3, a QRP rig available with an optional internal or external amplifier for QRO use. The K3 is the current standard for DX, contest and expedition use.

Elecraft transceivers date back to the firm's founding in 1998 by Wayne Burdick, N6KR and Eric Swartz, WA6HHQ, members of the Northern California QRP Club. The KX3, cheaper and more portable than the K3, is the current favourite among QRPers, taking over from Yaesu's wildly successful multimode, multiband FT-817. I employ the KX3 in many contests and especially enjoy its computer-free RTTY and PSK31 capability.

GQRP's magazine, *SPRAT*, normally features reports on the tiniest of rigs built by their members. Homebrewing contests for QRPers – found not only in QRP magazines but even in *QST* – bring out some of the best in technical innovation. Small size, low power consumption and a small parts count are favoured in QRP construction.

In the last two years, technical articles in QRP ARCI's magazine *QRP Quarterly* have focused on Arduino controllers and their many uses. TEN-TEC's release of two open-source, Arduino-based QRP transceivers (Rebel 506 and 507) has stimulated Amateurs to form groups such

Bob MacKenzie, VA3RKM, enjoying winter operating with a K2 and an auto charging power pack. Photo courtesy of his wife Barbara.

as the Rebel Alliance to develop software and hardware for this programming environment. Santa bought me an Arduino starter kit this Christmas so that I could share in the fun, if only to a limited extent.

Studying propagation is also an interest of QRPers, albeit one that is often forced on them. QRP lives on the edge of propagation. If the prop's not there, flea power is the first to feel it. On the other hand, there are often brief times of the day of 15 to 20 minutes on each band that are magic, enabling robust long distance communication with no problem at all. Learning when and to where suitable propagation exists are vital to successful QRP DXing and contesting.

Adequate antennas for portable or permanent use is another prerequisite for sustainable and enjoyable QRP operation. When running 100 watts, an antenna need not be all that good to make contacts. But with QRP, effectiveness becomes more of an issue. Lots of radials for verticals and long runs for wires can make a big difference. Fortunately, some well-known antenna experts – such as Gary Breed, K9AY, in his *QRP Quarterly* column – make their advice and experience widely available.

In short, QRP brings out the best in Amateur Radio for those who participate in it. Whether your interest is operating or experimenting, the QRP community offers a friendly welcome.

Robert MacKenzie, VA3RKM, lives in Ottawa, Ontario with his wife Barbara. He is currently a financial advisor and active in church and ham radio in his spare time. He built a five-watt tube rig out of a magazine in 1966 and continues to enjoy little rigs. Most of his air time is spent running QRP in contests.

THE DEFENCE OF AMATEUR RADIO FUND

The Defence of Amateur Radio Fund (DARF) is a Trust Fund that was established in the early 1990s by the Canadian Radio Relay League to provide financial support for research, and to defray travel expenses of a delegate to World Radio Conferences to defend the Amateur Radio bands.

It costs a lot to attend a WRC meeting. Travel and meeting expenses for a three- to four-week conference can top $10,000 or more in an international city like Geneva, Switzerland even for the most frugal. Without new donations, DARF funds on hand won't last indefinitely.

The Fund is maintained by donations from individual Canadian Amateurs and from Canadian Amateur Radio clubs. Donations are deposited in the trust fund account and the fund is administered by three DARF Trustees.

In January 2015, RAC took over the administration of DARF. The purpose of the fund and the restrictions on how the funds may be used are unchanged. RAC will continue to send a representative to WRC and selected preparatory meetings and continue its long tradition of leadership internationally in promoting, protecting and expanding Amateur Radio frequencies.

The trust is entirely separate from, and cannot be used for, RAC financial transactions.

Donations may be made by cheque only. Cheques should be made out to "The Defence of Amateur Radio Fund" and may be sent by mail to:

"Defence of Amateur Radio Fund",
720 Belfast Road,
Suite 217, Ottawa K1G 0Z5

Visit darf.rac.ca for more information.

Visit the RAC – CaféPress Online Store

http://www.cafepress.ca/rac_radio

QUA – A TOPICAL DIGEST

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Like Amateurs in many other places, members of the Terrace Amateur Radio Club meet most Saturdays at a local coffee shop. The Terrace Amateur Radio Club is a small club so Saturday's gathering of four was typical, as was our discussion of the various topics – generally radio related – in which we share an interest.

One of these topics concerned antennas and, like Amateurs everywhere, we considered how we could change our existing antennas for better propagation and thought about alternatives that might work better. Our conclusion to this discussion was that we needed a lot more space (and money!) so that we could set up something like that at OH8X.

Bruce, VE7EDT, then shared with us his enthusiasm for his software defined transceiver. As a club project a year ago most of the members built "Soft Rock LiteII" receivers (http://fivedash.com). These $25 receivers are amazing and we all found this to be an excellent project from which we learned a great deal. Bruce and two other club members went further and ordered the transceiver version of the "Soft Rock LiteII", the "SoftRock RxTx Ensemble". For the past few months he has been making very good use of this transceiver. Although the Ensemble is capable of about one-watt output, Bruce's is putting out only about one-quarter watt. He thinks this is because of insufficient drive from his netbook sound card.

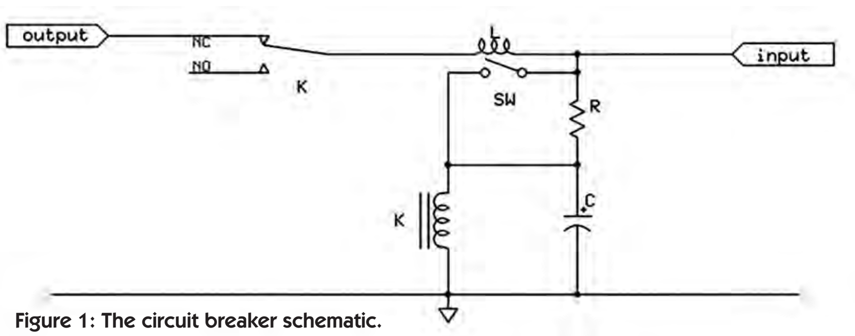


Figure 1: The circuit breaker schematic.

Nevertheless, we were all suitably impressed with his total of 49 countries confirmed over the few months he has been using this radio. Although he has the usual 100 watt transceiver with which he could operate, QRPp operation has provided him with a challenge and many hours of pleasure and excitement (and some frustration too, no doubt). In case you were wondering, Bruce doesn't have anything too special for antennas: a 40m dipole at about 10 metres in height and a Yagi for 20m, also at about 10 metres in height. Bruce's goal is to get as many countries as he can with this setup. By the time you read this I'm sure he will be well past the 50 mark!

Another of our topics was CW. All four of us – Glenn, VE7CNQ, Keith, VE7ECK, Bruce, VE7EDT and Allen, VE7BQO – enjoy CW very much even though we are variously frustrated by our lack of proficiency in copying or sending code. We discussed various ways in which we could improve our ability, and we wondered at the amazing ability of some DX and contest operators in copying calls accurately and rapidly through the QRM of a big contest or DX activation. I find the ARRL code practice files provide particularly helpful exercises with excellent code at speeds from five to 40 words per minute. They can be downloaded as MP3 files from the ARRL website at http://www.arrl.org/code-practice-files. You can also download the text so you can compare what you have copied to what it should be. Membership in the ARRL is not required for downloading these files.

Bruce was also excited about his experience in following propagation through the HRDLOG.net site (http://www.hrdlog.net) that shows QSOs within the last hour superimposed on a world map that includes a day and night. He was very impressed at how he could follow the grey line across the map and match it to completed QSOs. This led to further consideration of the propagation experiments some of us have been doing with our transceivers and WSPR running on Raspberry PI computers or on netbooks.

We went on to more discussion of antenna tuners and to more general concerns regarding feedlines, standing wave ratios, reflection coefficients and L/C matching circuits.

We finally ended our coffee time with some philosophizing about the many different activities that Amateur Radio encompasses. I assume our discussions are like those that occur amongst Amateurs across Canada – and across the world for that matter – a mix of old and new ideas, some practical and some theoretical, and some, just wishful thinking. How fortunate we are to have the privileges we do: to experiment, communicate and learn from the wonderful avocation of Amateur Radio.

For some time I have been intrigued by the description of a circuit breaker circuit in the book *Technical Topics Scrapbook 2005-2008* by Pat Hawker, G3VA (SK): RSGB, 2008 page 80. Apparently, after blowing a fuse once too often, the circuit designer, John Lien, LA6PB, made this circuit from parts he had on hand. Like him I've blown more fuses than I would like so I finally decided to try making something similar to his circuit breaker.

John's circuit used a reed relay around which he wound many turns of wire to make a supplemental external electromagnet to this relay in series with the power source. When the current through this electromagnet exceeded that necessary to trip the reed relay, a second relay would be activated and latched, disconnecting the power source from the load.

Instead of the reed relay that John used, however, I felt that a magnetic reed switch would need fewer turns of wire to trigger the breaker and would therefore introduce less resistance into the power lead. Since John's circuit also made use of the reed relay's internal electromagnet, the change to a reed switch also meant a redesign of the circuit. Figure 1 shows what I came up with.

Only five components are needed to make this circuit breaker. The switch, SW, is a small magnetic reed switch and the coil, L, is wound around it. Under normal operation, current flows from the input on the right through coil L and the normally closed contacts of the relay, to the output on the left. Current will also flow through resistor R and the coil of relay K, and capacitor C will be charged to a voltage that depends on the resistances of R and the relay coil.

As current to the load increases, the magnetic field surrounding coil L (and the magnetic reed switch) also increases. If the current exceeds a set amount, this magnetic field will be sufficient to cause the normally open contacts of the reed switch to close and thus short out the resistor R. Under these circumstances, the voltage applied to the relay coil will be the full input voltage and the relay will be activated. It will remain activated as long as the voltage stays above the relay dropout voltage, a situation that can be assured through proper choice of R and C. Without the capacitor, or a capacitor of sufficient capacity, the relay will just oscillate on and off.

The relay I used for my prototype had a specified dropout voltage of 1.2 volts and a pickup voltage of 8.4 volts, so I chose three volts as being sufficiently above the dropout voltage and sufficiently below the pickup voltage. Then, using Ohm's Law and the relay's specified 720 ohm coil resistance, I calculated that resistor R should be about 2.2 kΩ. I found that a 100 µF electrolytic worked well and I was very pleased with the consistent and reliable operation of this circuit breaker. It shut off at a current of one ampere.

You can see a photo of this prototype in Figure 2. This prototype uses a relay with a 12 volts coil (Digi-Key part #255-1079-ND and a magnetic reed switch (Digi-Key part #HE555-ND). The capacitor is 100 µF and the resistor 2.2 kΩ. Coil L is 15 turns of #24 wire close wound on the reed switch. One ampere of current triggers the circuit breaker. The reed switch, resistor and coil are shown at the top of the photo. I assembled them as one unit with the coil tightly wound around the fragile glass tube of the magnetic reed switch. To avoid breaking this tube I wound 15 turns of #24 wire on the shaft of 5/64th-inch drill bit and then slid the resulting coil over the tube. The coil slid on easily when its windings were turned just slightly backwards and, once this backwards force was released, the coils tightened up snugly to the tube. Then I soldered one end of the coil to one end of the switch and the resistor in parallel to the switch. I didn't add any indicators – for example, an LED to show that the circuit breaker had tripped – but it would be easy to do so by connecting an LED and suitable resistor from the normally open contact of the relay to ground.

You might think, as I did, that a normally open push button switch placed in parallel with the relay's coil would offer a convenient reset mechanism. However, I learned the hard way that pressing this switch can sometimes cause a direct short circuit from the input to ground through the reed switch (with destructive consequences for the switch). Recycling the power provides a much better reset!

Buoyed with the success of this circuit I decided to try making a heavier duty version. I used the same circuit but a 12 volt automotive relay capable of switching 20 amperes in place of the smaller relay used previously. Because this relay had a smaller coil resistance and different pickup and dropout voltages, I had to recalculate the value for the resistor. I also used a larger capacitor (1000 µF) to compensate for the lower resistance with which it is in parallel. In addition, you can see in Figure 3 that the coil around the magnetic reed switch is made of much heavier wire (#14 enamelled) and that only two turns were used. For this prototype I fastened the parts directly to the relay.

The sensitivity of magnetic reed switches is indicated by the number of ampere-turns necessary to activate the switch. My lower current 15 turn prototype activated with 1.0 ampere of current = 15 ampere-turns. Two turns then should activate the switch with 15/2 or about 7.5 amperes; and as far as I can measure, this seems to be about the current at which this circuit breaker activates.

At some point during my experimentation I realized that, with a careful choice for the resistance of resistor R, it would be possible to provide overvoltage protection with this circuit breaker too. Consequently, I carefully measured the pickup and dropout voltages for the relay I was using along with the coil resistance. They were 1.9 volts, 5.5 volts and 215 ohms respectively, values that differed quite substantially from those in the data sheet (Digi-Key part # 255-1939-ND). I felt that a good maximum voltage would be 15.5 volts and, using Ohm's Law and my measured values, calculated that a 390 ohm resistor in the circuit would cause the circuit breaker to trigger if the input voltage exceeded this value. I was pleased to find that to be the case and also that the current triggering worked well. Thus, for a given relay and magnetic reed switch, the number of turns of wire in coil L determines the current limit whereas the resistance of resistor R determines the voltage limit.

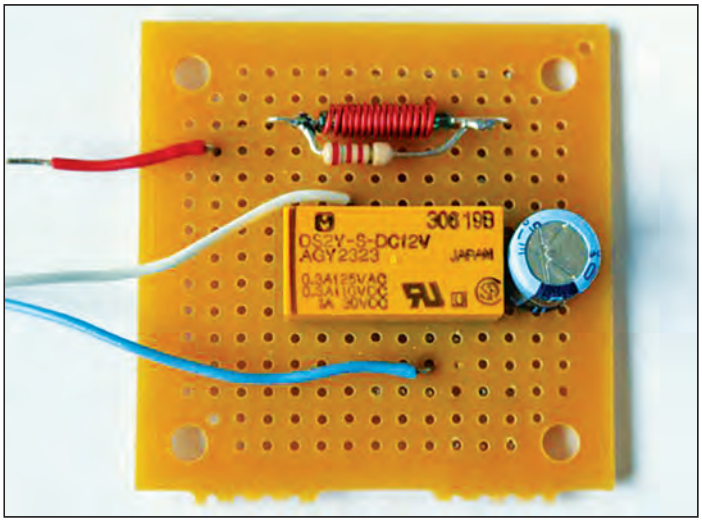


Figure 2: Prototype circuit breaker.

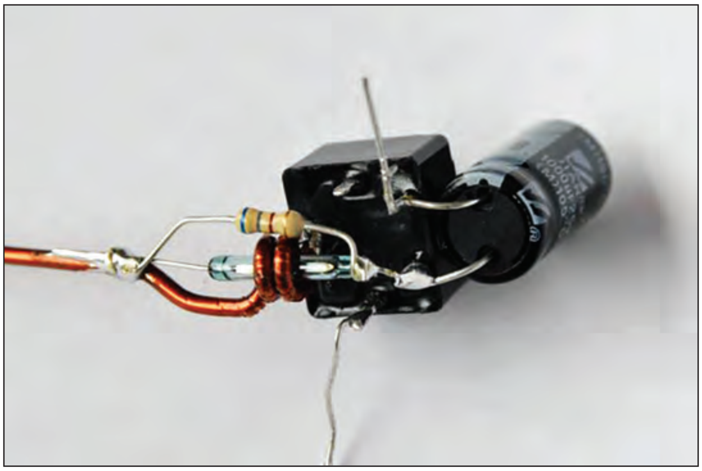


Figure 3: A higher current version of the circuit breaker.

I'm sure you realize that if you would like to make a circuit breaker like the one I've described here, you will have to do some calculations and experimentation to make the circuit breaker match your requirements. If you decide to make one of these circuit breakers, I hope I have provided sufficient information so that you have a good place from which to begin your work. Before you start, however, I suggest you contact me by email at ve7bqo@rac.ca so I can give you some insights I gained from the many hours of experimentation with this deceptively simple circuit. Finally, if you have not seen *Technical Topics scrapbook* I really recommend it as a superb source of ideas and information. Take a look at John Lien's circuit on page 80 and another alternative, high current implementation by G4WZK on page 100 as well as hundreds of other "technical topics" (and a CD too that includes 50 years of Pat Hawker's columns in RadCom).

OVERVIEW OF TRANSMITTING ANTENNAS FOR QRP OPERATION

David Conn, VE3KL

The use of low power radios (QRP) apparently has little to do with antenna systems. Simply connect your favourite QRP transceiver to a very big/high antenna and you are in business.

The problem with this solution is that people who are attracted to QRP operation have a vast and different set of requirements so there is no optimum antenna system. However, there are good and bad antennas for each application. For successful results the basic concepts of antenna design must be observed or else your five watt rig will end up transmitting less than one watt, which will make life difficult in less than perfect band conditions and during the sunspot minimum.

One of the most important things that is available to QRP operators is that they can design very simple and small antenna tuners that can be connected directly to the antenna terminals, thus reducing unnecessary transmission line losses. These losses *can* be extremely high with multiband antennas like the G5RV or the 88/44-foot dipoles that are commonly used for high and low power.

The basic concepts to address when selecting/designing a good QRP antenna are:

1) Radiation Efficiency: defined in Standard 145-1993 of *IEEE Standard Definitions of Terms for Antennas* as: "The ratio of the total power radiated by an antenna to the net power accepted by the antenna from the connected transmitter." The radiated power will be lowered by copper losses in the antenna wires and power delivered to the ground in the form of heating. Radiation efficiency does not include losses associated with Baluns, Antenna Tuners and Feedlines.

2) All heating losses associated with the Baluns, feedlines and antenna tuners which are not part of the antenna itself.

3) The shape of the antenna pattern. Many multiband antennas produce radiation patterns that are quite different on each band. This is an item that you should be aware of when erecting the antenna. It is not quite as important for horizontal antennas that are mounted close to the ground.

4) The mechanical design and strength. The mechanical design depends entirely on the intended application: base station, portable, mobile or backpacking.

Figure 1: The Inverted V/Linked QRP Antenna

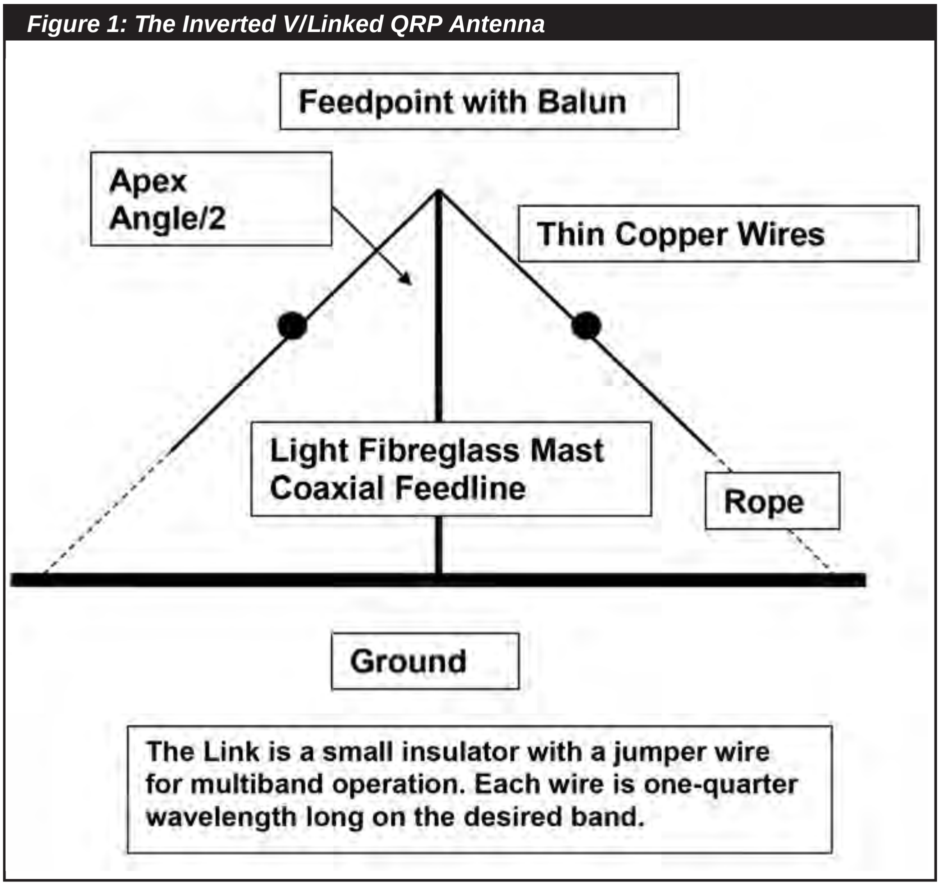
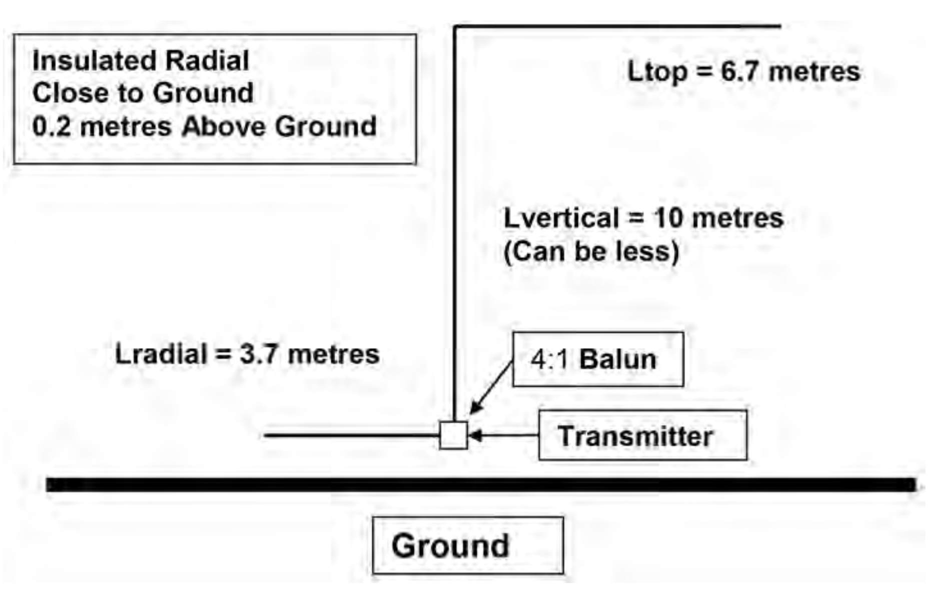

Feedpoint with Balun
Apex Angle/2
Thin Copper Wires
Light Fibreglass Mast Coaxial Feedline
Rope
Ground
The Link is a small insulator with a jumper wire for multiband operation. Each wire is one-quarter wavelength long on the desired band.

Figure 2: The Inverted L with One Radial Matched with 4:1 Balun @ 7 MHz



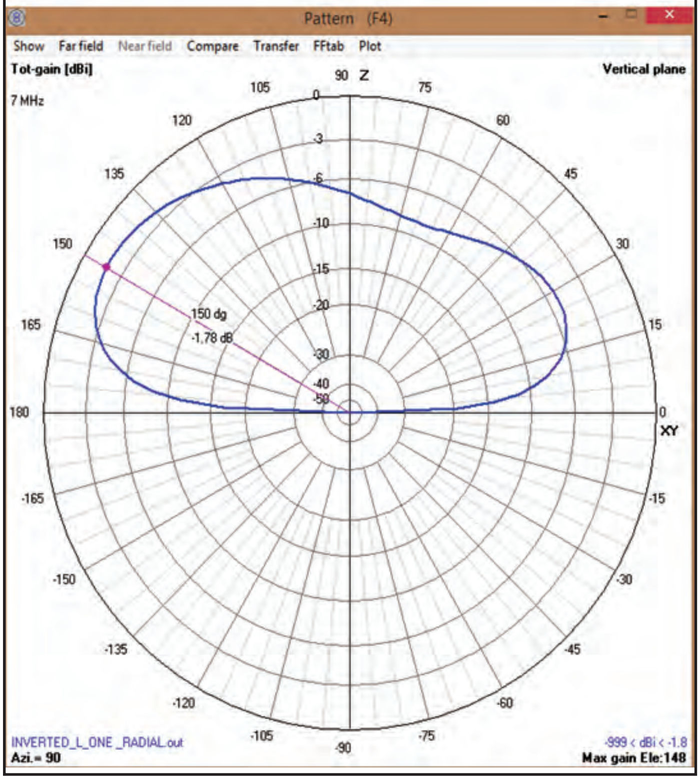
QRP applications can be classified into three broad categories: Fixed station, Mobile and Portable applications. Here are some of the requirements that many Amateurs have with respect to their QRP operation.

1) Some like to operate with their portable QRP radios in local areas such as parks and they have a small amount of time for their operation. Hence, they need to have a simple system that is really fast to set up and get on the air. They are often willing to use only one or two bands depending on the band conditions.

2) Some have more time on their hands where they might be camping out for a

Figure 3: Polar Pattern of Inverted L with One Radial

Polar Pattern Inverted L One Radial @ 40 metres
Vertical Plane Azimuth Angle 90 degrees
Maximum Gain -1.78 dBi



few days. They might be prepared to set up a more complicated system, such as a small two-element beam or even a Spider beam, if they want to work multiband.

3) Then comes the extreme cases of operating QRP while mountain hiking or setting up in winter conditions. Their needs require an extremely lightweight system that can easily be operated with little or no tuning. A link dipole (see references 1 and 2) – carefully designed and covering the 80m, 40m and 30m bands for example – can weigh less than 400 grams.

4) Many QRP operators operate at home with fixed antennas while occasionally going out into the field to take part in QRP contests or Field Day. For their home operation they probably want to operate a few bands and do not want to adjust antennas (like a link dipole) every time they want to change bands.

QRP antennas can be classified into two broad categories:

1) Antennas that are mounted well off the ground with no conducting wires placed near the ground. Examples of these antennas are: the inverted V; link dipoles; end-fed half-wave, the off-centre fed (dipole); and others. Not counting transmission line losses, these antenna generally are capable of very high efficiency with a few exceptions. Trapped dipoles can be quite efficient but the efficiency depends on the quality of the traps.

2) Antennas that have one or more wires placed near the ground such as a quarter wave vertical with a small number of ground radials for portable operation or the inverted L with only one radial. You can expect to have low efficiency for these antennas.

The above categories can each contain many different configurations but the main characteristics are:

Antennas that have no wires mounted near the ground are more efficient than antennas with wires that are mounted near the ground.

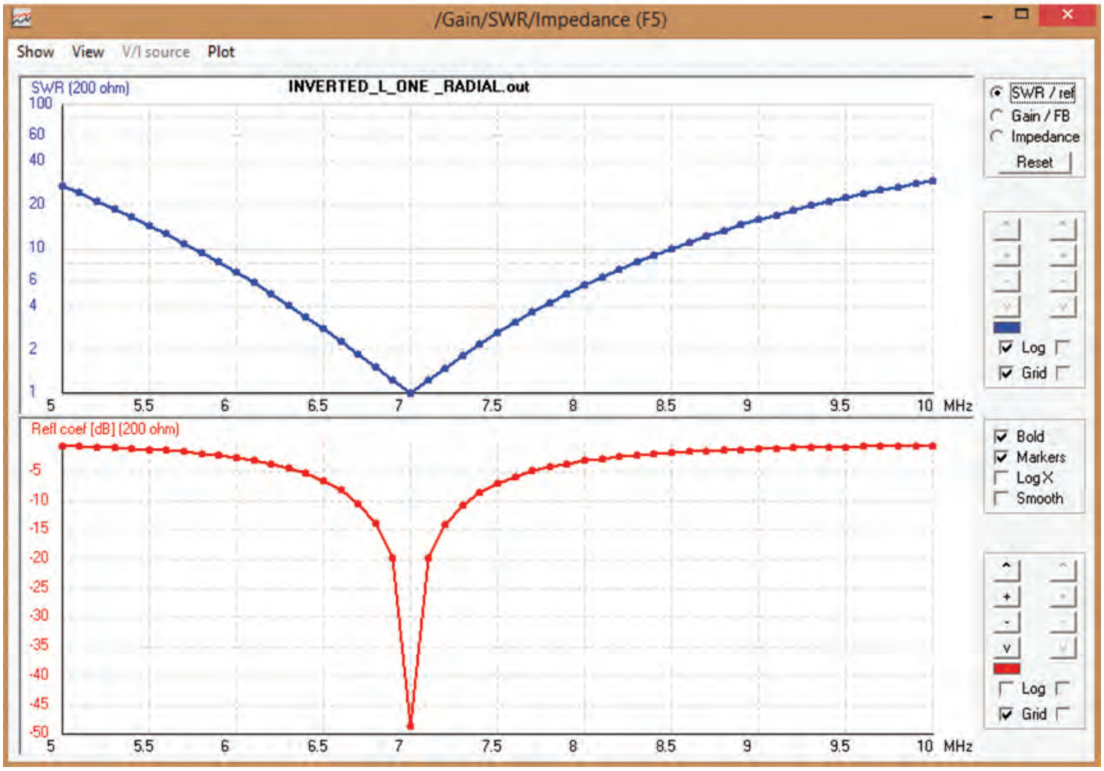
I have found that this rule helps me in the initial selection process when looking for a good QRP antenna. It is especially useful when looking at commercially available antennas from companies who do not publish the gain of their antennas.

The second item to consider is the ease of matching the proposed antenna so that transmission line losses are minimized. For example some antennas in category 1 above can be rejected for your application because of excessive line losses. I will demonstrate this problem with an example.

The third item to consider is the mechanical layout and ease of using the antenna. This becomes a prime consideration for QRP operation in remote areas. Some trade-off in efficiency can usually be tolerated.

Figure 4: Impedance of Inverted L with One Radial

SWR of Inverted L One Radial – 4:1 Balun – Antenna Dimensions are shown in Figure 2



This article discusses three antennas which are quite different and show how they fit into general categories mentioned above. They are:

- the Inverted V and its cousin the linked inverted V for multiband operation
- the Inverted L with one radial mounted slightly above ground
- the “ Magic length” 88 Foot centre fed dipole

Let’s start with the performance of the Inverted V antenna.

PERFORMANCE OF THE HALF WAVELENGTH INVERTED V

The inverted V antenna is a good example of a monoband antenna that is suitable for QRP operation. It can be used with a very light weight ferrite choke Balun that is attached directly to the antenna terminals.

One option that QRP operators have over QRO (high power) operators is that they can select very lightweight antenna wires to ease portable operation. I have analyzed an inverted V antenna (see Figure 1 for antenna details) for a 17 metre band inverted V that I used at my cottage for several years. It uses #14 gauge wire since I am using a fixed antenna at the 100 watt level. Now what happens when you use very small wire gauge? The losses are larger so the antenna radiation efficiency will be less.

The 4nec2 antenna simulator shows that the gain of the inverted V antenna, used here as an example, drops by a mere 0.2 dB when changing from #14 to the smaller #26 gauge copper wire. A quick calculation of the current levels for this antenna using #26 gauge shows that a 1 kW transmitter will cause severe overheating while there will be little heating for QRP operation.

Other antenna properties of the inverted V antenna – such as its bandwidth, centre frequency and SWR – are also impacted slightly as the wire gauge changes, but these changes are not large.

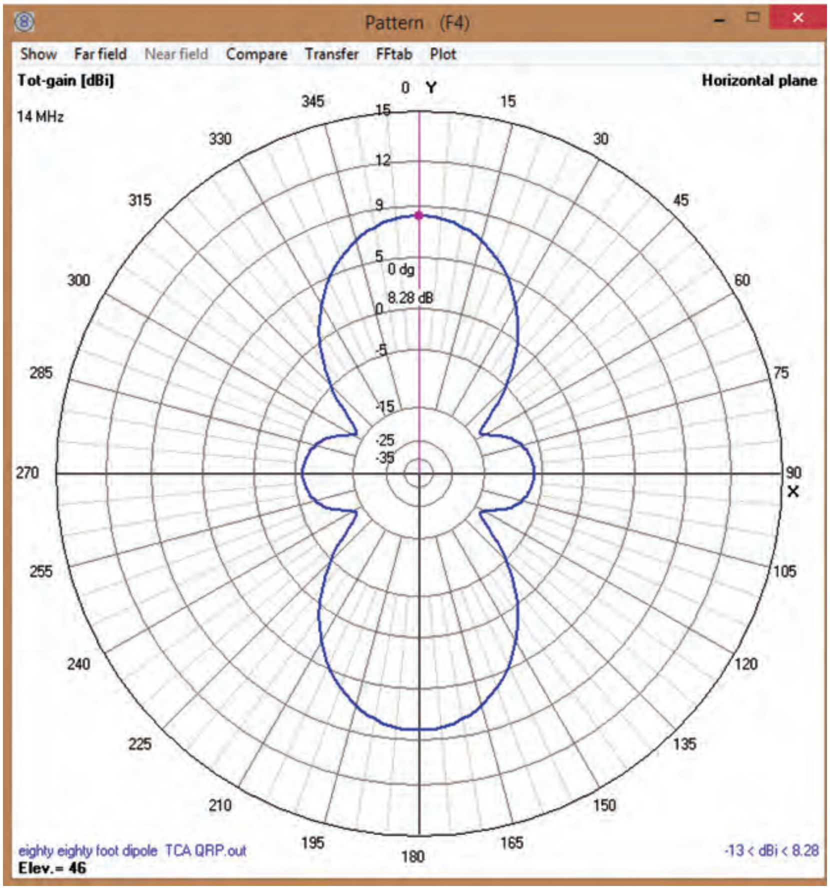
The one downside of the inverted V for portable use is that it is usually fed with 50 ohm coaxial cable because its input impedance at resonance is close to 50 ohms (depends on the apex angle). Hence, mountain hikers might not want to use the inverted V because of the need for supporting the relative heavy cable. You might consider the use of RG-174 or RG-316 50 ohm coaxial cable. RG-174 has a loss that is approximately three times that of RG-8X but the extra loss might be acceptable. For example, a 10 metre length of RG-174 has a matched loss of approximately 1 dB in the 17 metre band.

The general characteristics of the Inverted V antenna are as follows:

1) Maximum gain around 5 dBi (very good) when mounted above average ground. The radiation angle varies with antenna height as is usual for this antenna type.

Figure 5: Polar Pattern 88-foot Dipole @ 14.0 MHz

Radiation Pattern 88-foot Dipole @ 20 metres
Horizontal Plane
Elevation Angle 46 degrees
Maximum Gain 8.28 dBi



2) Impedance close to 50 ohms at resonance.

3) Radiation pattern similar to a dipole (the main beam is broadside to the antenna).

4) Monoband operation.

5) Best fed with coaxial cable, no tuner required for most applications.

INVERTED L USING ONE RADIAL ABOVE GROUND

The Inverted L with One Ground Radial (see Figure 2) is a popular QRP antenna for hikers because it can be used with a very simple lightweight mast and other lightweight components. The one described here is for monoband operation. The specific design presented can easily be modified to be used with shorter masts with a loss of efficiency and changes in the radiation pattern.

The polar pattern for this antenna is shown in Figure 3 on page 19. This antenna has a fairly good radiation pattern with a maximum gain of -1.78 dBi at an elevation angle of 150 degrees for an azimuth angle of 90 degrees (broadside).

The antenna gain is approximately 7 dB less than the inverted V which is caused by the very low radial (0.2 metres above ground). Hence, this antenna will radiate one-fifth of the power (-7 dB) compared to an inverted V when both antennas are using the same transmitter power. Since the resonant impedance is approximately 200 ohms (by design), it is easily matched using a 4:1 Balun. This is shown in Figure 4 where the 200 ohm SWR is plotted from 5 to 10 MHz.

The general characteristics of the Inverted L using One Radial antenna are:

1) Maximum gain around -2 dBi when mounted above average ground. The radiation angle varies with antenna height as is usual for this antenna type.

2) Impedance close to 50 ohms at resonance after using a 4:1 Balun.

3) Radiation pattern similar to a dipole but does show a small front-to-back ratio.

4) Fed at the bottom so no coaxial cable is needed.

THE MAGIC 88/44-FOOT DIPOLE

One antenna that is often discussed is the so called “magic antenna length”. So what is so magic about this antenna? Does it make a good QRP antenna? Some people think that it is really good while others think the opposite. The problem with these comments is that they all have a different view on what is good for their particular application.

I will simply describe its operation, with respect to radiation patterns and matching issues as well as other factors, so that you can decide on its usefulness for your application. Let’s focus on the 88-foot version (26.8 metres). The antenna (see Reference 3) is 0.3 wavelengths long at 3.5 MHz (the 80 metre band) so the impedance is expected to be extremely reactive in the 80, 40 and 20 metre bands. This does not mean that the antenna is inefficient but it certainly suggests a significant matching problem.

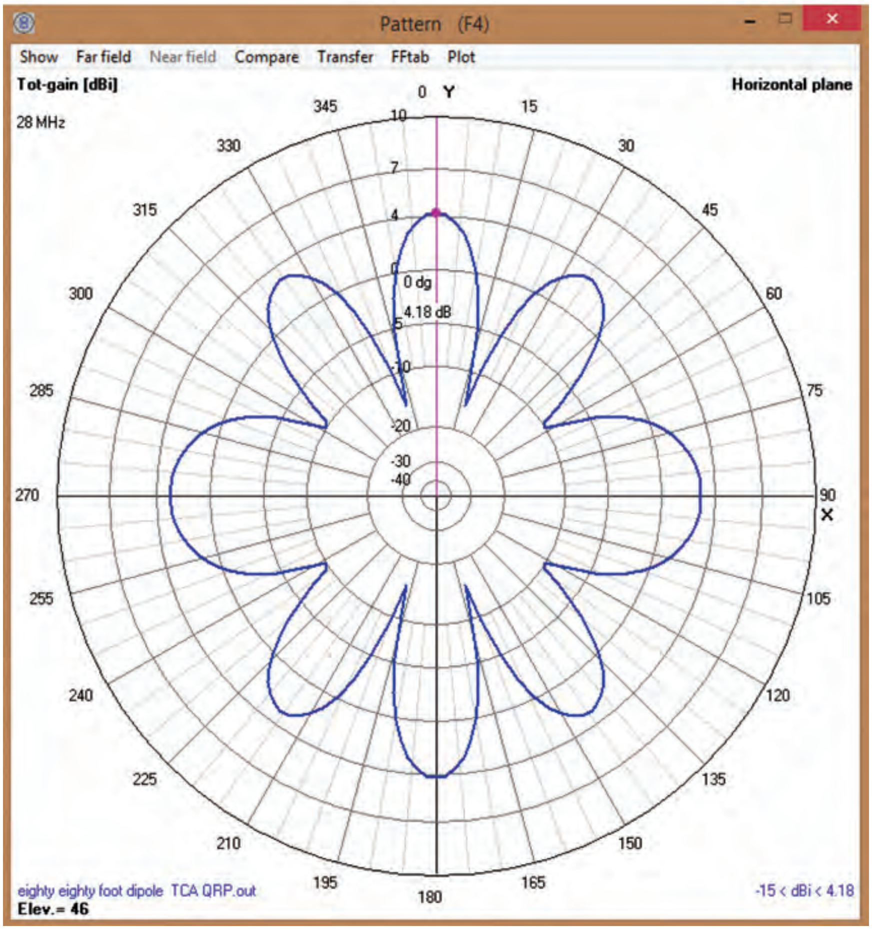
In my simulations using 4nec2, I have assumed that the antenna is mounted 10 metres above an average ground and is fabricated from copper wire. The trends are quite clear as the frequency is increased. The antenna gain in the 80 metre band is approximately 3.4 dBi and the radiation pattern is close to being omnidirectional in the horizontal plane. There are no unwanted sidelobes.

The performance in the 40 metre band is similar except that the gain is close to 6 dBi since the antenna is longer with respect to its operating wavelength. The antenna is no longer omnidirectional. The highest gain occurs in the 20 metre band (see Figure 5) where the antenna is quite directional and exhibits a gain of slightly greater than 8 dBi. Now a small side lobe appears off the end of the antenna. The performance really changes once you reach the 10 metre band (see Figure 6). Eight major side lobes appear which are approximately equal in gain. There are also eight very deep nulls between each major side lobe.

The SWR of the antenna is shown in Figure 7 where the SWR is plotted from 1 to 30 MHz. Here, it is assumed that the antenna is connected to a 450 ohm window line.

Figure 6: Polar Pattern 88-foot Dipole @ 28.0 MHz

Radiation Pattern 88-foot Dipole @ 10 metres
Horizontal Plane
Elevation Angle = 46 degrees



The SWR in the 80 metre band is approximately 80, which means that it will be extremely difficult to match it to a transmitter: the losses will be very high. Hence, the antenna is too short to be used easily in the 80 metre band for QRP applications.

Even the SWR at other bands is very high (around 10) which means that the transmission line length for reasonable efficiency will vary from band to band. Impedance matching is the big problem with this antenna.

The general characteristics of the “88-foot Magic Length” antenna are:

1) Maximum gain around 8 dBi at 14 MHz when mounted above average ground. The radiation angle varies with antenna height as is usual for this antenna type.

2) The impedance in the 80 metre band is extremely high: not recommended for QRP use because of the very high matching losses when all losses are included.

3) Operation in other bands requires very special attention to transmission line matching. The high antenna gain might overcome some of the transmission line losses with very carefully designed matching elements.

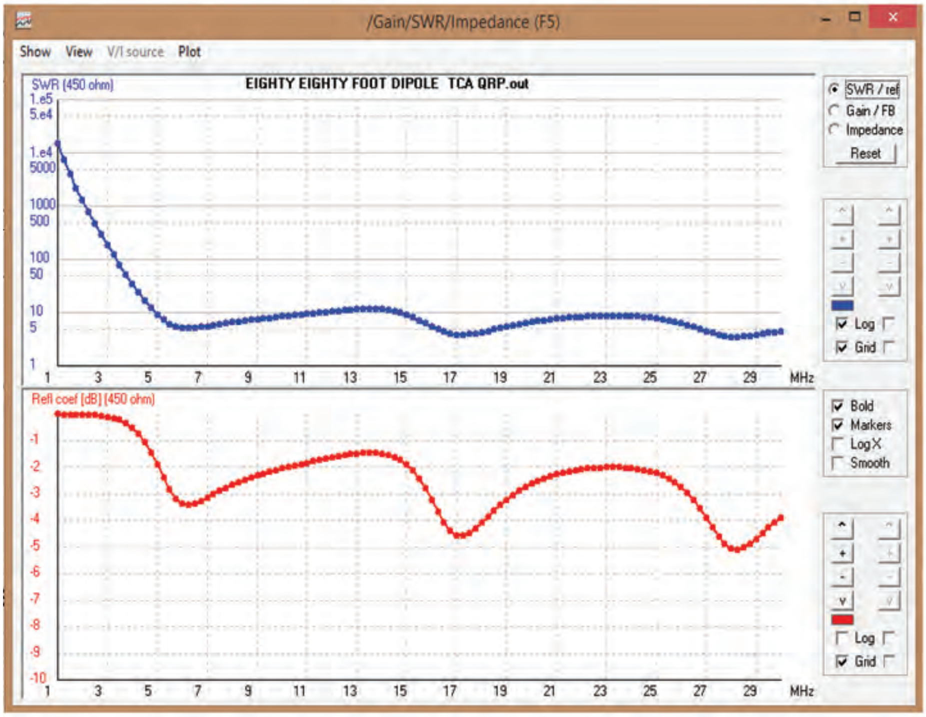
4) The radiation pattern is broadside for frequencies below 18 MHz.

5) This is an example of an antenna that does not have any wires mounted near the ground, but it has serious matching problems that will probably be hard to overcome in portable operation.

Figure 7: Impedance of 88-foot Dipole

SWR of 88 Foot Dipole
1 to 30 MHz
Zo = 450 Ohm

Frequency [MHz]
Note the excessively large SWR in the 80 metre Band
SWR = 80 @ 3.5 MHz
SWR <10 in other bands



SUMMARY OF ANTENNAS STUDIED IN THIS ARTICLE

1) The simple inverted V and the linked V: This antenna is highly efficient and is easy to match and erect. It exhibits broadside radiation.

2) The Inverted L with One Radial: This antenna is much less efficient than the inverted V but it can be much easier to use for backpackers who demand very light weight.

3) The 88-foot Dipole: There is good gain because of its height above the ground but it poses a serious matching problem on most HF bands. It is not recommended except for the highly experienced antenna designer.

FURTHER COMMENTS

There are many other possibilities for QRP antennas that are not discussed in the article. One particular antenna type that is well worth exploring is the multiband Off-Center Fed (OCF) inverted V (see Reference 4 below).

The commercial versions of these antennas are usually designed for high power. Hence, they are heavy and not suitable for portable use where light weight is required. These antennas can, however, be designed and built for multiband operation using very lightweight components and toroid matching units. The advantage of this antenna type is that band changing with links is not required. The antenna can be designed with many special applications in mind: selecting a few or only two-band operation for example.

Ground Plane antennas are commonly used for portable applications where high power is used. They can be resonant or shortened with the aid of loading coils. Usually, the impedance is quite low and the efficiency is also low. It can be used for special QRP applications.

REFERENCES

1) Summits On The Air and the linked Dipole: http://www.sota.org.uk/JoiningIn

2) VK3ZPF Ham Radio Blog: http://vk3zpf.com/link-dipole

3) Short Dipoles and Problems (88-foot or 44-foot Dipole): http://www.w8ji.com/short_dipoles_and_problems.htm

4) Notes on the Windom Antenna: http://www.w8ji.com/windom_off_center_fed.htm

5) The End Fed Half Wave Antenna: http://www.aa5tb.com/efha.html

6) Asymmetrical Multiband Antenna: http://www.aerial-51.com/model-404-ul/

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David Conn was first licensed in 1952 at the age of 17 with the call sign VE3CBR. The Amateur Radio club at his high school, KCVI, in Kingston, Ontario sparked a lifelong interest in radio, optics and communication systems.

This interest in radio led him to a career in Electrical Engineering. He graduated from Queen's University at Kingston in 1971 with a Ph.D degree where he researched the modelling of microwave devices. This was followed by a research fellowship at the Institute for Microwaves in Stockholm after which he became an Associate Professor of Electrical Engineering at Carleton University.

During his professional career he spent many years in industrial research at Bell Northern Research developing microwave amplifiers for digital radio systems and he developed a microwave laboratory at SED systems in Saskatoon. Later he joined the Department of Electrical and Computer Engineering at McMaster University, where he held a research chair in microwave techniques and served as the Chair of the Electrical and Computer Engineering Department.

David is now retired and enjoys all facets of Amateur Radio including building antennas, operating CW and learning about software defined radio systems. He is a member of Radio Amateurs of Canda, the Ottawa Amateur Radio Club, the West Carleton Amateur Radio Club, the American Radio Relay League and is currently the Past-President of Chapter 70 of the Quarter Century Wireless Association.

He also wrote the "Antennas and Transmission Line Column" in TCA from 2003 to 2014. David can be reached at davidrconn@rogers.com.

SPENCER AND DASHNEY APPOINTED TO HALL OF FAME

Prepared by
Ed Frazer, VE7EF
Chair of Trustees for
Canadian Amateur
Radio Hall of Fame

The Trustees of the Canadian Amateur Radio Hall of Fame have appointed George Spencer, VE3AGS (SK) and Don Dashney, VE3RM (SK) to the Hall of Fame for the year 2014.

The Constitution for the Hall of Fame specifies that appointments be made “for outstanding achievement and excellence of the highest degree, for serious and sustained service to Amateur Radio in Canada, or to Amateur Radio at large”.

George Spencer was inducted to the Hall on January 25, 2015, as described in this article.

Don Dashney was inducted to the Hall on February 17 at a lunch meeting of the National Capital Chapter 70 of the Quarter Century Wireless Association (QCWA) in Ottawa. His achievements will be described in the next issue of TCA.

GEORGE SPENCER, VE3AGS

This appointment recognizes George Spencer’s six decades of outstanding service to Amateur Radio in Canada.

Arthur George Spencer was born in Innisfail, Alberta in 1920 and raised in St. Catharines, Ontario where he attended St. Catharines Collegiate Institute. In the late 1930s, he worked as an apprentice electrician and obtained his Amateur Radio licence.

During WWII, he enlisted in the Royal Canadian Air Force (RCAF) and was sent overseas on loan to the Royal Air Force for their RADAR division. Following his discharge after WWII, he attended the University of Toronto in Electrical Engineering.

After completing his degree in 1949, George began working for the Alliance Paper Mill near St. Catharines. He enjoyed a long career in the pulp and paper industry and he was also a consultant to the mining and petrochemical industries. During his career, George was Chief Electrical Engineer at Howard Smith Paper, Chief Project Engineer at Champion Paper in North Carolina, Chief Electrical Engineer of Canadian Bechtel in Montreal, President of Teshmont Consultants Ltd in Winnipeg (working on high voltage DC systems) and President of Spencer Engineering Ltd in Edmonton. He retired in 1985 and lived near St. Catharines.

George was registered as a Professional Engineer in several Canadian provinces and US states, and was a member of the Institute of Electrical and Electronics Engineers (IEEE) and the Canadian Institute of Mining and Metallurgy (CIMM). He authored and co-authored numerous engineering papers dealing with mine plant design, electric drives for paper machines and grinding mills.

In 1969, George received the Award of Merit from the Bechtel Corporation and he was awarded the Distinguished Lecturer Award from CIMM in 1975.

A lifelong enthusiast in Amateur Radio, he was a member of many clubs across Canada. In particular, he was a member and President of the Montreal Amateur Radio Club, the Winnipeg ARC and the Niagara Peninsula ARC. From the 1950s onwards he was a keen Elmer to many Amateurs. His friendly approach helped many beginners to get into the hobby. At each of his many locations and club memberships, he volunteered his time for code and theory classes, and he was a mentor to many. Along with TCA columnist Dana Shtun, VE3KU, he edited the “Talk to the World” manual for theory classes.

Active on the HF sailors net, he broadcast weather reports to private sailing ships in the Atlantic and Caribbean, and also for sailors in coastal waters.

George was a member of the Radio Society of Ontario (RSO), a Board member of the American Radio Relay League (ARRL), a Director of the ARRL Canadian Division, Vice-President International Affairs of the Canadian Radio Relay League (CRRL), and he supported the merger of the CRRL with the Canadian Amateur Radio Federation to form Radio Amateurs of Canada. He was on the organizing committee of the 1967 ARRL National Convention in Montreal, and he was the Chair of the organizing committee for the 1995 International Amateur Radio Union’s (IARU) Region II convention in Niagara Falls. A Life Member of the Quarter Century Wireless Association, he was a charter member of Wild Rose Alberta Chapter 151 and of the Fred Hammond Chapter 73.

During his engineering career, he lived in many locations in Canada, the United States and Bermuda, and he always operated his HF Amateur Radio station. He held numerous call signs including VE2BEC, VE2MS, VE3DNU, VE3OZW, VE4IM, VE6AW and 8P6HO. Upon his retirement he obtained his final call sign with his initials VE3AGS.

He obtained a call sign licence plate for his car long before they were authorized. How? While he was working in North Carolina in 1961, he ordered state vanity plates as “VE3DNU” which was somehow granted! One plate is on display at the Manitoba Amateur Radio Museum.

His nominator and long-time friend, Jim Thompson, VE3BCA, said that George was “the perfect ham: knowledgeable, friendly, hard working, and a perfect teacher”. Jim recalls that as George aged he needed a pacemaker, but he refused to have one because it would mean not using his radio. He accepted the pacemaker only after the cardiologist found a model that would tolerate the use of his HF radio.

In later years, George suffered from dementia and was admitted to a full-care home. George Spencer, VE3AGS, died on December 21, 2010 at the age of 90. He is survived by his wife Jean (now living in a retirement home in Mississauga, Ontario); three daughters (Debbie, Margo and Jayne); five grandchildren (four boys and a girl); and six great-grandchildren (all girls)!

On Sunday, January 25, the Hall of Fame plaque was presented by RAC Ontario Assistant Director Stan Leschinsky, VE3TW, to George’s wife Jean and his daughter Jayne at an afternoon tea at the Viva Mississauga Retirement Home. The tea was attended by many of George’s family and an enthusiastic group of Amateurs from the Niagara Peninsula Amateur Radio Club and the QCWA Fred Hammond Chapter 73.

Stan Leschinsky, VE3TW (at left), Jean Spencer, and Jayne Butler. (Photo by Mary Card, VE3FEB)

OOT "FINDS" QRP

Bill Karle, VE1YY

The wonder of signals crossing the ether with minimal hardware; a like-minded soul behind the dits and dahs; the excitement of being heard! So reminiscent of my first QSOs nearly six decades before – such was my foray into CW QRP.

Yes, I am an Old OldTimer (OOT) but only a little while ago did I "find" QRP.

I had built low power rigs in my teens. Yet, those, with the general bulk of the tube era, certainly were not portable, more like "lug-able" with the help of a similarly besotted ham.

I later made transistorized transmitters that worked poorly to fairly well. They assuredly were portable, but that feature was negated by carting along a reasonably effective, and weighty, receiver.

Drifting away from QRP, I chased "wallpaper", rallied to the contest call, and served as a national net control station. The key to those games was effective (*aka* "big") antennas, higher-powered (QRO) transmitters and transceivers, kilowatt amplifiers, or all of the above.

I do operate lower power digital communications and have a grand time. I am thrilled what I can work with 10, or even five, watts. Nevertheless, it struck me that digital QRP soaked up a lot of juice, what with a computer acting as a modem and a log. The watts *in* exceeded the watts *out* by a wide margin.

I wondered what else I could squeeze out of the station.

I dialled down the power on my Icom IC-706 to five watts, narrowed the bandpass to 500 hertz, zeroed in on the QRP frequencies (see Table 1 below), shifted to hand-sent CW and paper logging, and started.

Started what? Listening. A long time ago, I learned that I have to listen and listen and then listen some more. Calling CQ burns up more watts than does listening. Calling CQ works better when one dominates a frequency with skill and power. Having neither in the QRP realm, I listened.

TABLE 1: SOME CENTRES OF ACTIVITY FOR QRP OPERATIONS (NORTH AMERICA UNLESS NOTED)

Band (metres)	CW Centre Frequencies (MHz)	'Phone Centre Frequencies (MHz)
80m	3.560 3.710	3.690 (Europe) 3.985
40m	7.030 (Europe) 7.035 7.040 7.060 7.110	7.090 (Europe) 7.285
30m	10.106 10.116	Not applicable
20m	14.060	14.285

Note: The "centres of activity" are less calling frequencies than they are "watering holes". Around these frequencies, you will probably find QRP operations. There are more centres of activity on 160, 60, 17, 15, 12, 10, 6 and 2 metre bands but I have not experienced them. I have not tried 'Phone QRP; the frequencies are offered for interest.

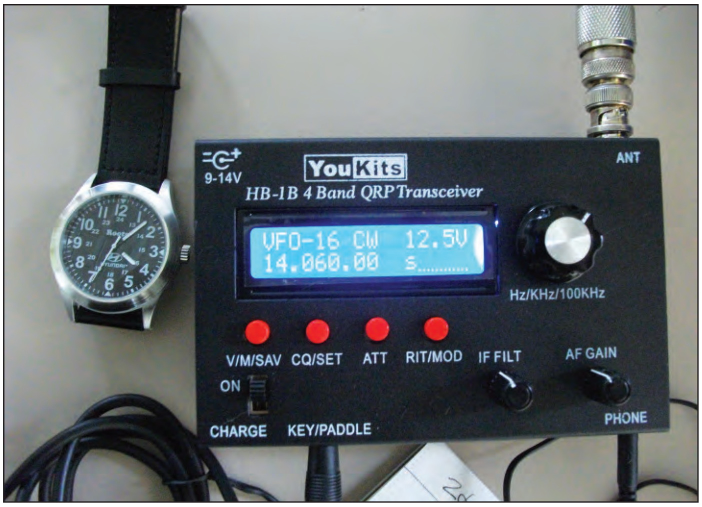


Figure 1: XCVR close-up

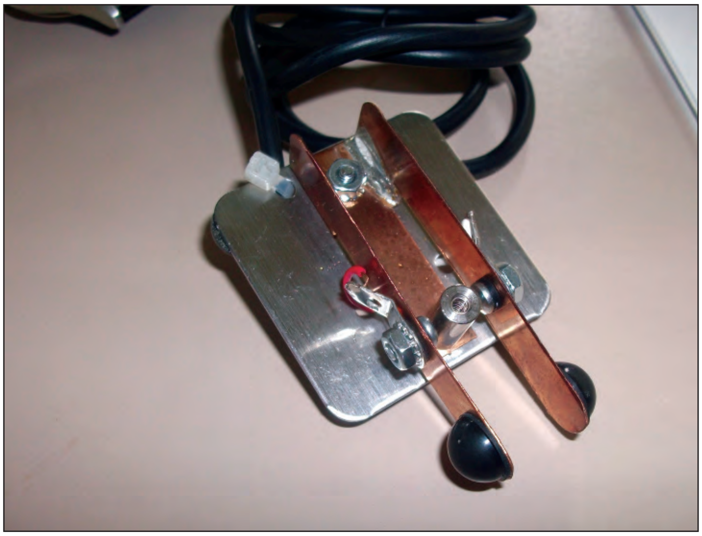
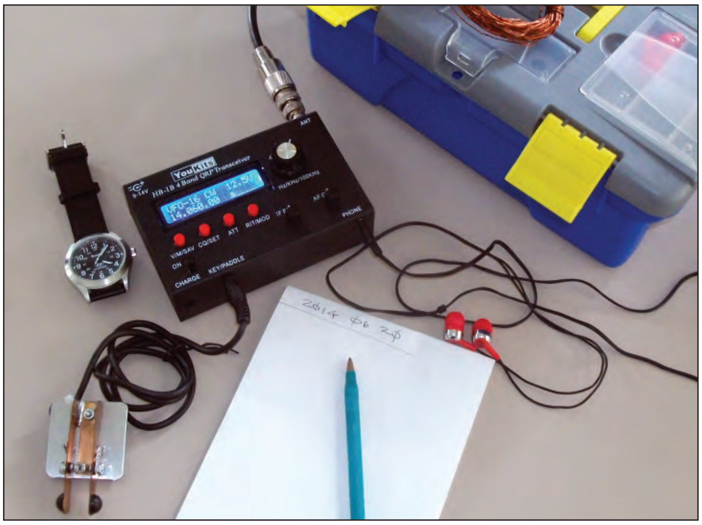


Figure 2: Iambic key (above); Figure 3: Op setup (below)



I was looking for stations calling "CQ", especially "CQ" and signing the call with "/QRP". Why the latter? I thought that if we both were QRP stations, then the operating conditions might be similar (power, antenna, etc.), reports might be more comparable than otherwise, and, particularly, I might learn about QRP from a kindred spirit.

I have to tell you, the first and next few CW QRP QSOs were highly satisfying. Born again!

You have to realize, though, that I was using a stable transceiver sporting a sensitive and selective receive function. The 706, further, was connected to my "big" antenna, the 80m to 6m Windom up 15 metres, a not marginal antenna at all! The efficiency still was not great since a switching power supply was part of the watts *in/out* equation.

The QRP bug proceeded to burrow into my psyche. Why not mix QRP and camping?

The 706 went camping for a couple of years, getting on the air with a 20 metre ground plane vertical thrown up in a tree and radials stretched to branches and bushes.

I wondered, though, what it would be like to operate with a small, lightweight, QRP transceiver, running on batteries, and using whatever antenna I could field-create – what the aficionados call a "trail-friendly" station.

Researching available ready-made and kit QRP rigs, I settled on the incongruously named Youkits model HB1B Mark II, an *assembled* rig. It is a transceiver, with three to five watts of output, covering the 80m, 40m, 30m and 20m bands. It is fairly sensitive and quite stable and includes 30 frequency memories as well as an iambic keyer. A tiny MFJ iambic paddle rounded out the setup (see Figures 1 and 2 on the previous page).

The XYL and I headed off for an early spring camping trip and the little QRP station went along. My trusty 20m ground plane vertical performed well and – not needing an antenna matching unit (AMU) – was the chosen radiator. Results on that journey and the next were not spectacular but kept me busy for a few hours working stations within an 800-mile radius (see Figure 3). The summer rolled in and my QRP results plummeted. I tried to be "QRPhilosphical" that I needed more patience and fewer disturbed solar conditions.

An annoying noise source appeared, one not heard when using the Icom. Could there be a problem with the Youkits? Yes and no. The little rig does not filter out switching transients as well as the digital signal processor in the 706 does. The HB1B, after all, uses a simple crystal filter. The noise was coming from our own camper: its power supply, making 12 volts DC from the AC service and charging the camper battery, hacked the airwaves with loud and broad-banded Radio Frequency Interference (RFI).

As an aside, I used the little rig and a small loop of wire connected to its input to find the RFI. It showed up at the camper's refrigerator but most loudly at the power unit. Switching it off during hamming periods reduced, although did not solve, the problem. It seems that some noise was coming from nearby RVs!

I tried alternative antennas. A full wave loop was quieter than the vertical. The 20m loop was made by measuring out roughly 20 metres of wire, making as open a loop as possible by attaching it to trees and bushes, and then connecting each end to the high impedance side of a four-to-one balun.

Surely the easiest antenna to install is the end-fed wire: throw a wire over a tree, feed one end, and you are good to go. Use of a counterpoise wire, about one-quarter wave long, tossed on the ground under the radiator provides a good RF ground. The antenna is "touchy" as to tuning on each of the bands and in some cases even within a band. Its loading changes greatly in the rain.

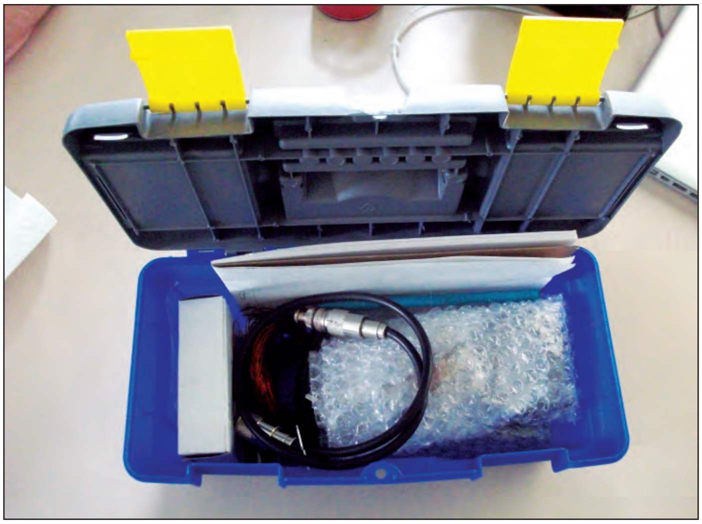


Figure 4: Packed up

I have done matching just by shortening or lengthening the antenna. You can appreciate that this is *fiddlier* than twisting knobs on an AMU but it serves the purpose.

An end-fed half-wave dipole, excited via a quarter-wave transmission line, was used in my university-days apartment. Feeding this way inverts the high impedance at the end of the half-wave dipole into a low impedance at the transmission line's input thus keeping the rig happy and obviating the need for an AMU. It worked then so it is on the "QRP To Do" list. (Note: Commercial versions of such an antenna are available).

I am planning to build a tiny AMU including some kind of SWR bridge or other tuning indicator – especially one that can be removed from the circuit after tune-up is finished: no sense wasting power driving an indicator when driving an antenna is paramount!

Trail-friendly hamming requires reducing the weight and bulk. I presently can fit everything, except the ground plane vertical, into a small toolbox. What's in there? The transceiver, paddle, bud-type earphones, a wrist watch set to UTC, pencils, paper, and about 100 feet of wire, adequately fit in the box (see Figure 4).

No power supply? That's correct. The Youkits rig has a built-in Li-ion battery. The battery charger also fits in the box.

There seems to be enough room for a small tuner and perhaps the proposed end-fed half-wave dipole if small coax is used.

By the way, I use a partially filled water bottle as a heaving weight to install antennas. Since water is part of camping gear, I did not count it in the rig's weight and volume.

A pleasant discovery is that "QRP folk" seem inventive and convivial reminding me of hamming and hams when I was a "newbie". When you think of it, I am again a novice. It sort of all hangs together.

Making a minimalist station with QRP, cobbling antennas in the field, and enjoying CW's efficiency, for me reinforces the magic of Amateur Radio.

Bill Karle, continuously licensed since 1957, has held calls K8QGT, VE2ECW, VE4KZ, briefly 4S7KZG, and, starting in mid-2014, VE1YY. Bill is a Certified Emergency Coordinator and a Maple Leaf Operator member of RAC. His Amateur Radio interests include propagation, antennas, digi modes and DXing – and he admits to a blossoming interest in QRP. He is retired following a career in international consulting, university teaching and university administration.

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FRESH ON THE AIR

– ADVENTURES FOR THE NEW AND BEGINNING HAM

Where Are All the Repeaters?

New Amateur Radio operators like yourselves are sometimes confused as to where to find listings for repeaters in their area or when they travel throughout Canada, the United States or overseas. You know these listings are out there, but have no idea where to actually get the information. And if you live in a more rural area away from a major city, how do you find a more local repeater – or at least one that you may be able to hit?

Although the Internet is a wealth of information, it is not the ultimate source for Amateur Radio information, nor is it easy at times to find exactly what you are looking for. There are quite a few outdated sites with outdated information so, even if you find repeater listings, those listings may include repeaters that are no longer in service, are operating on a different frequency, or belong to another club or operator.

There are, however, some trusted resources you can use to find a local repeater, or one that you may want to access on your travels. Most Amateur Radio club websites list the repeaters they operate, including the input frequency and many operating perks or parameters of the repeater.

I would suggest that once you get your ticket and radio – and if you live in a major city or region – that you search on the Internet for an Amateur Radio club in your area. For example, if you live in Kokomono or Buttertartsville, try searching for the Kokomono Amateur Radio Club or the Buttertartsville Amateur Radio Club. There may only be one or there could be quite a few. But this should be your first place to search if you have access to the Internet.

Below is a list of recommended resources that you can use to find currently active repeaters. Whether you are looking for a local repeater or one half-way around the planet, in most cases you will be able to find a suitable repeater for your use on the RAC website at: https://www.rac.ca/en/amateur-radio/operating-technical/repeaters/

This page lists many repeater resources including repeater listings for Canada and the US, which includes listings for clubs and repeater councils, and Internet linking though IRLP and EchoLink. If you want to find an Amateur Radio club in your city or area and see what repeaters they operate, the RAC site is another way to go.

RFinder.net: http://www.rfinder.net/blog/

This is a great website that I have recently joined, and for $9.95 US per year it is a pretty good deal. RFinder is the "Official Repeater Directory of RAC". By searching in a 30 kilometre wide radius from my location I was intrigued to find a couple of active repeaters that were not listed in other directories I use. The information on this site seems to be updated rather well and, in many cases, the website of the repeater operator or club is listed as well so you can find further information about the repeater or the repeater system it might be associated with. For a paid online repeater reference source, I feel that it is well worth the money.

Note: RAC and RFinder suggest that users get the app on Android or iPhone (just search "RFinder" in Play or iTunes App Store) as the app purchase includes annual access to the database from web.rfinder.net, routes.rfinder.net, RT Systems Software (ADMS for Yaesu), CHIRP or the Apps themselves. RFinder also recently became the "Official Repeater Directory" of the Radio Society of Great Britain.

ARRL Repeater Directory:

The pocket-sized edition of this directory (and now an app for Android and a larger-print Desktop edition) has been the mainstay of Amateur Radio operators throughout Canada and the United States for a very long time. This guide lists repeaters by state/province, includes IRLP, EchoLink and digital mode repeaters, and has information on operating practices, repeater offsets, and other repeater and repeater operating information. This directory is available from the ARRL website and most Amateur Radio dealers. If you live in an area with an Amateur Radio store then you can pick up a copy in person. This book is a great all-around reference guide to North American repeaters and operating information. Beware though, the pocket edition does have small print and you may need a magnifying glass if your eyesight isn't the best.

Repeaterbook.com: http://www.repeaterbook.com/index.php?state_id=none

This is a rather comprehensive online source for updated information on most repeaters in Canada and the United States which is designed for the travelling Amateur. It has a vast array of search options and even tells you if a repeater is active or inactive. I really like this site because it provides a large amount of information about repeaters – and it's free! I think it's best feature is the indication of whether a repeater is currently active and online – or if it is down at the moment.

Western New York-Southern Ontario Repeater Council: http://www.wnysorc.org/repeaters.php

This is an example of an Amateur repeater frequency coordination organization that assigns repeater frequencies within a defined area to prevent interference among the stations. The coordinated member repeaters are listed with as much information as possible. Most Repeater Councils that list their member repeaters keep the information updated very well and, in most cases, have the most current information about them. To find a council in your area, search for your city or region with the words "repeater" and "council" in the phrase.

There is no single resource – including those listed above – that is going to provide you with the ultimate information on repeater locations. Repeaters come and go. Frequencies, access codes, modes and other parameters change over time. Updating the information relies on those who produce the resources and on the users themselves to ensure that changes are reflected in the listings.

Like me, you may end up using most or all of the above sources to keep up with local repeater changes, and to find repeaters in other areas or cities that you may visit or pass through. Using multiple sources may also resolve problems you may be experiencing such as finding the proper call sign or CTCSS access tone for the repeater.

Transmission Tidbit:

Got some punny jokes for the column? Submit them to me. Write me via the magazine; email me at phillipjboucher@gmail.com or via my website at www.phillipjboucher.com.

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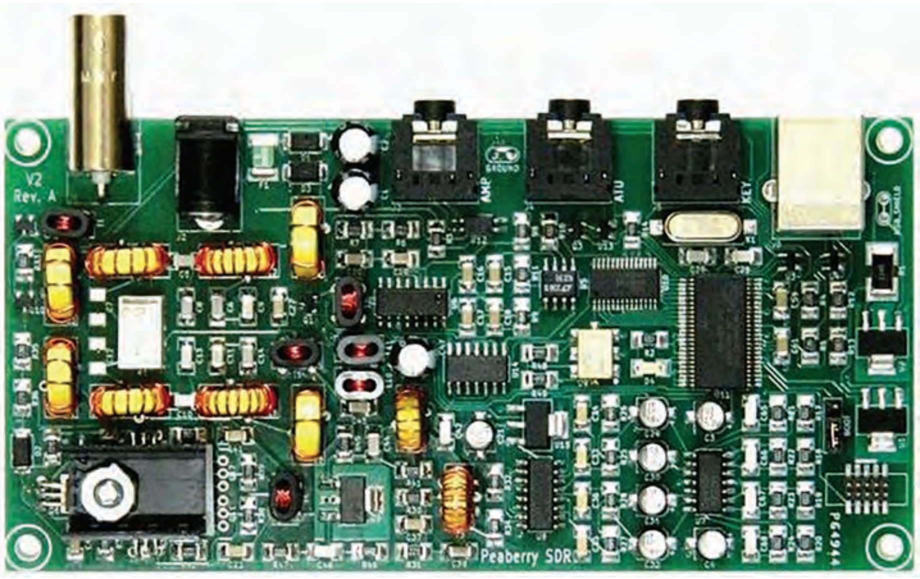
"My little Peaberry QRP SDR Transceiver: What a Gem"

Norm Rashleigh, VE3LC



The Peaberry V2 Assembled Circuit Board.

The subject of this article is the Peaberry V2 HF QRP SDR transceiver available from David, AE9RB, at http://AE9RB.com. What a cute little radio he has developed. It's an improved version of his V1 kit which was a refined version of the Softrock design. The V2 design has an on-board 96 kHz sound card chip so interface to the computer is solely through a USB cable; no audio connections to the computer sound card are necessary.

I purchased the kit about a year ago and have been having fun with it ever since. The Peaberry V2 was originally offered only in kit form. Fortunately, for the vast majority of older Amateurs with failing eyesight and shaky hands, for an additional $100 the Peaberry is now offered fully assembled and tested, case included. Now everyone can partake in owning and operating this fine little SDR QRP rig that not only sounds good on SSB, but works well with most digital mode applications. The rig also works on CW; albeit, it's a bit tricky – more on that later.

BUILDING THE KIT

Building the kit is not for the inexperienced or the faint of heart. It is all surface mount technology which includes a couple of integrated circuits (ICs) with 0.65 mm pin spacing. You even have to wind your own toroidal inductors for the bandpass filters.

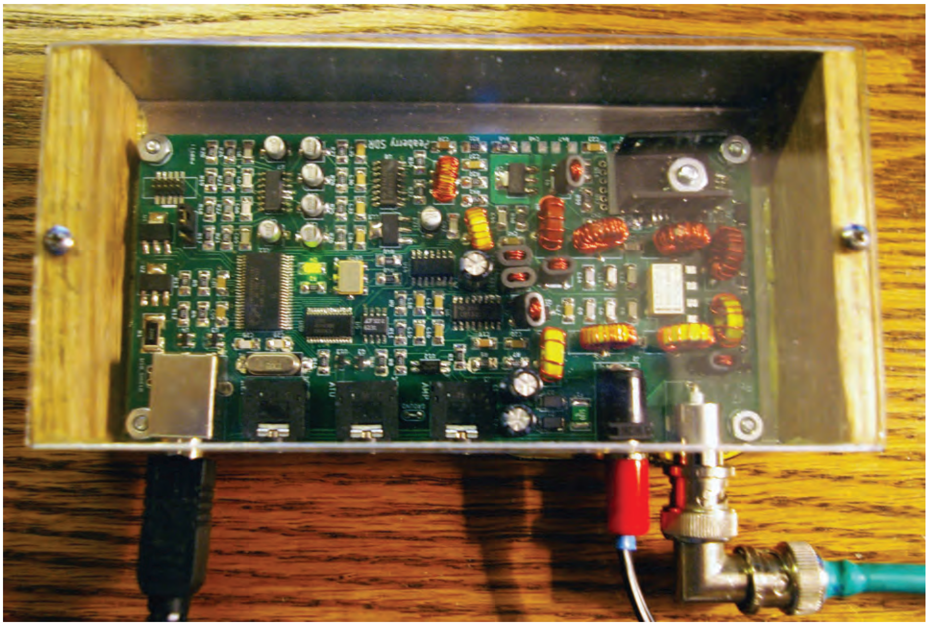
The kit costs $149 US and gives you a nominal one-watt HF transceiver on several HF bands and I was willing to take a chance with assembly. For me, assembly and testing were uneventful expect for the loss of one of the chip resistors that flew off the end of my tweezers while placing the component; it took me three hours to find it on the floor. Others telling their story on the Peaberry forum were not so fortunate with the assembly.

When building the kit, you have to make a choice on which bands you wish to operate. Your choices are 160/80/75, 80/75/60/40, 60/40/30/20, 30/20/17/15 or 17/15/12/10. All the parts and inductor winding instructions for all the band splits are included with the kit. However, if you order the Peaberry V2 ready-made, you will have to specify your bands of choice with the online purchase order. I built my Peaberry to operate on the 60/40/30/20 metre bands. If you decide to build the kit, the assembly instructions are superb. They are available for download from: http://ae9rb.com/

You must take soldering the components step by step, testing the board as assembly progresses. You start assembly with the power supply and regulation components, and power it up with an ammeter in series with 12 volt power to the board. The expected current is provided at various stages of construction. Any soldering shorts will likely show up, but little damage should result because of the resettable thermal chip fuse on the circuit board.

The Cypress PSoC (Programmable System-on-Chip) is installed early-on along with a diagnostics LED. The LED blinks out Morse with expected codes as you add the XTAL, the Silicon Labs Si570 Programmable clock which is the local oscillator for mixing, and the PCM3060 ADC and DAC soundcard chip. If all goes well, the LED comes on steady. You then proceed to test the board by receiving with the elemental receiver circuit without yet installing the bandpass filter components.

As mentioned earlier, the Peaberry V2 transceiver must be used with a computer connecting by USB cable. It is otherwise powered by 12 volts drawing about 200 ma on receive and 525 ma on transmit. There are three 3.5 mm jacks: one for the Morse



My Peaberry in its homebrew case.

Code key; one for a Push To Talk (PTT) output function for keying an external amplifier; and another for interface to an Elecraft T1 tuner providing optional band switching control.

When operating voice modes including SSB, AM or FM, a computer headset plugged into the computer sound card ports is used for the radio talking and listening functions. Although there are several SDR software applications that can be used with the Peaberry, the one that works well and with the least fuss – and which is specified for testing and operation by AE9RB in his assembly instructions – is HDSDR.

HIGH DEFINITION SOFTWARE DEFINED RADIO

High Definition Software Defined Radio (HDSDR) is a freeware Software Defined Radio program for the Microsoft Windows 2000, XP, Vista, 7, 8 or 8.1 operating systems. It is designed to operate with a wide selection of SDR hardware platforms including the AE9RB Peaberry V2.

HDSDR can be downloaded from http://www.hdsdr.de/. Like most SDR software, the HDSDR desktop presentation has a wide spectrum display showing band activity, along with a waterfall display of the spectrum signals that provides a time domain view of subtle and transient signals of the entire displayed spectrum. When used with the Peaberry V2, HDSDR can provide a spectrum display width up to 96 kHz accomplished by the high sampling rate of the Peaberry V2 on-board PCM3060 Audio Codec chip.

HDSDR also shows separately, a variable width display for control of receive (and transmit) bandwidth. The selectivity skirts are steep and the bandwidth window is adjustable between 0 and 5200 Hz of the dialed frequency in the SSB modes. This is particularly advantageous when using the WSJT-X digital mode application opening up both the receive and transmit bandwidth thus accommodating the JT-65 and JT-9 sub-bands at the same time. Even transmitting SSB can be done with considerable audio frequency fidelity. Radios with conventional fixed filters cannot do this. Unfortunately, the current version of HDSDR cannot do split TX/RX frequency operation which is useful when working some contests and DXpedition stations. To see HDSDR in action, go to http://youtu.be/Zb8xmWGuw0g

OPERATING DIGITAL MODES WITH THE PEABERRY V2

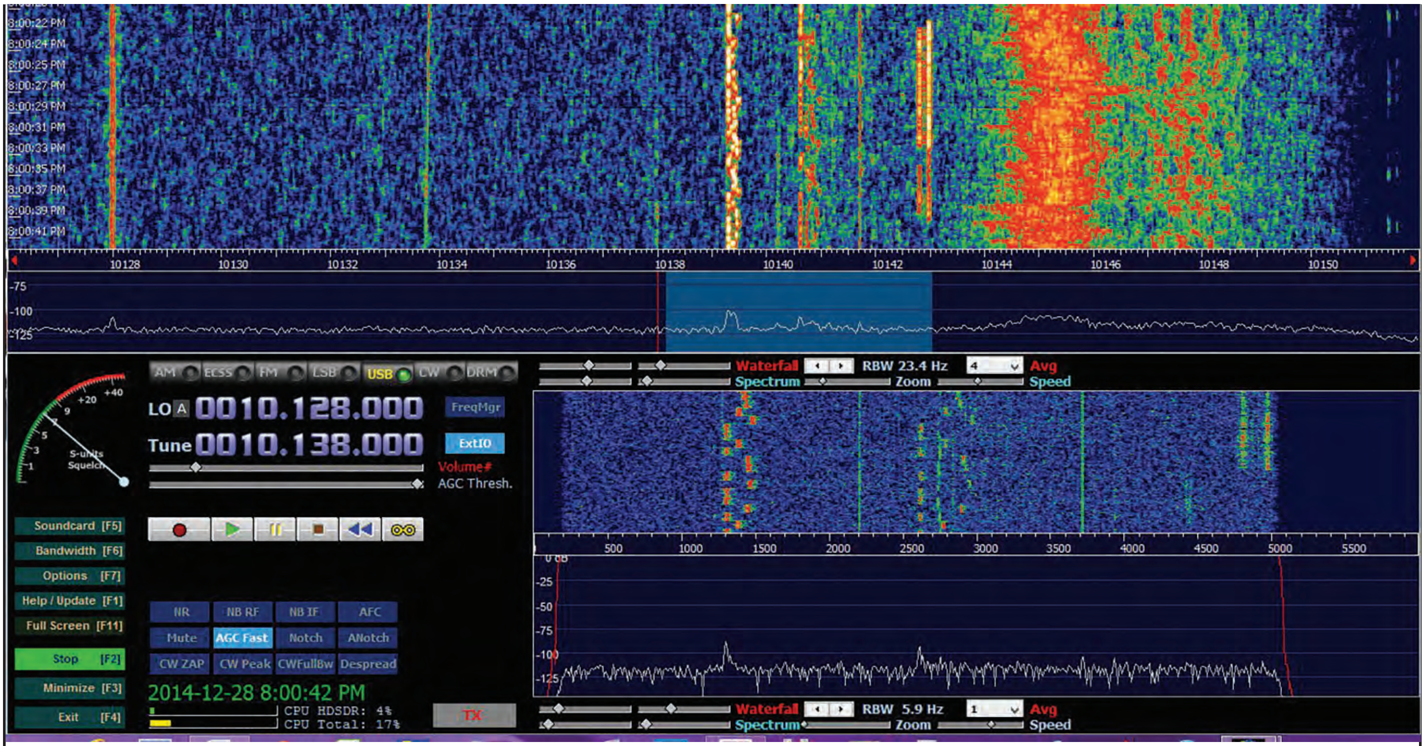
The little radio seems to be ideally suited for operating QRP digital modes including PSK31, RTTY, WSPR and WSJT-X (for JT-65 and JT-9). The one exception is RMS Express using Winmor which is used for the Winlink radio email service – more on that later.

The main benefit of using an SDR radio on digital modes is that all you need is the radio hardware – in this case the little Peaberry V2 – and of course the computer. All the interconnections are done internally within the computer between the SDR software and the digital mode application by means of additional software providing the "Virtual Audio Cables" and "Virtual Serial Ports" (VSP).

The Virtual Audio Cable software means the software applications interface is digital to digital without the need of D to A and A to D conversions that would otherwise be necessary using physical analog connections to and from a computer and a conventional transceiver. In addition, it is said by some Amateurs that using Virtual Audio Cable software results in less distortion.

The virtual audio cable software is available from http://software.muzychenko.net. For virtual serial port functionality, there is open source freeware available at http://com0com.sourceforge.net/ called "Com-0-Com"; but be cautioned, I was not able to get this to work on my Windows 8.1 laptop.

On my Windows 7 machine, however, it worked fine in the so-called Windows "Test Mode" necessary because of the unsigned driver. Windows 8.1 will not allow this; instead, I have been using "Virtual Serial Port Manager by Steve, K5FR". His VSP software is only available to hams by email after you identify yourself as a Radio Amateur at his webpage: http://k5fr.com/ddutilwiki/index.php?title=VSP_Manager



LO A 0010.128.000

Tune 0010.138.000

RBW 23.4 Hz 4

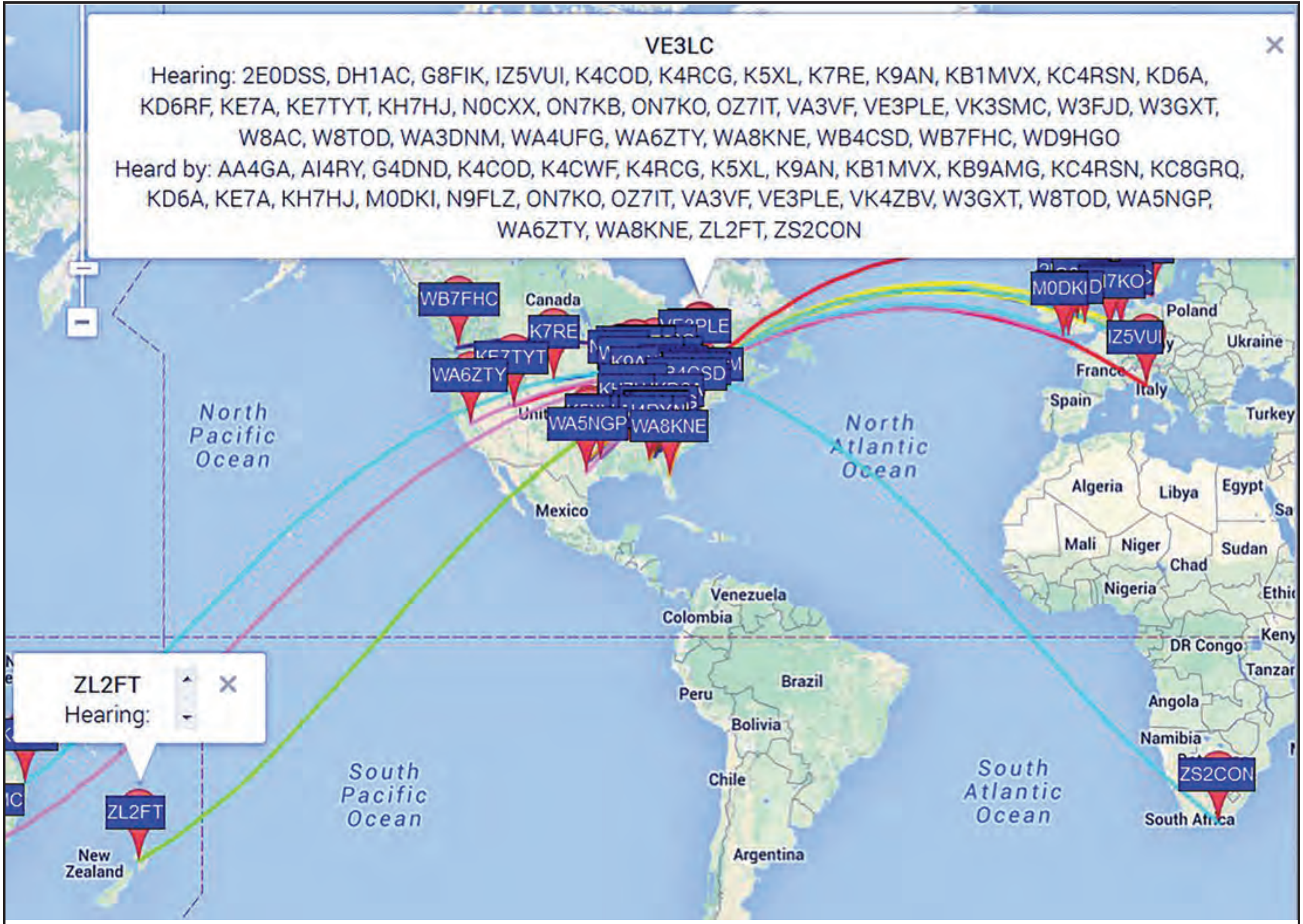
RBW 5.9 Hz 1

2014-12-28 8:00:42 PM

CPU HDSDR: 4%

CPU Total: 17%

The HDSDR Screen Display showing reception of WSJT-X (JT-65 & JT-9 signals) on 30 metres.



VE3LC

Hearing: 2E0DSS, DH1AC, G8FIK, IZ5VUI, K4COD, K4RCG, K5XL, K7RE, K9AN, KB1MVX, KC4RSN, KD6A, KD6RF, KE7A, KE7TYT, KH7HJ, N0CXX, ON7KB, ON7KO, OZ7IT, VA3VF, VE3PLE, VK3SMC, W3FJD, W3GXT, W8AC, W8TOD, WA3DNM, WA4UFG, WA6ZTY, WA8KNE, WB4CSD, WB7FHC, WD9HGO

Heard by: AA4GA, AI4RY, G4DND, K4COD, K4CWF, K4RCG, K5XL, K9AN, KB1MVX, KB9AMG, KC4RSN, KC8GRQ, KD6A, KE7A, KH7HJ, M0DKI, N9FLZ, ON7KO, OZ7IT, VA3VF, VE3PLE, VK4ZBV, W3GXT, W8TOD, WA5NGP, WA6ZTY, WA8KNE, ZL2FT, ZS2CON

ZL2FT

Hearing:

The Peaberry V2 SDR running one watt on WSPR being heard around the world on 20 metres.

I mentioned before that there were issues running RMS Express which provides Winlink radio email service using the Winmor mode on the HF bands. This has always worked for me using a conventional HF transceiver and soundcard computer interface such as the Tigertronics Signal Link USB. However, trying to use it with the Peaberry V2 and HDSDR doesn't work because of the excessive changeover time between Transmit and Receive. The "Acknowledgement" transmission from the gateway stations are returned too fast and just not heard by the SDR radio. The same applies when I have tried Winmor using my Flex 1500.

THE PEABERRY V2 AND CW

CW and QRP go together. The Peaberry hardware does have a key jack. Unfortunately, it did not function by the original Peaberry firmware loaded into the radio's PSoC and using the HDSDR software. Some have had success using the Peaberry's original firmware with PowerSDR (of Flex fame) which supports CW well, but I found the compatible SoftRock implementation when used with the Peaberry to be messy. I also tried the Peaberry with Rocky SDR software from VE3NEA. It worked on CW too but did not have the class and pizzazz of the display presentation and features of HDSDR.

The solution came from the good works of Ron, W4MMP, who is a Peaberry devotee and frequent contributor to the Peaberry V2 forum on the AE9RB.com website. Ron modified the firmware code in the Peaberry's Cyprus PSoC processor chip and made the download available from a link on his forum posting. The new firmware can then be uploaded to the Peaberry using David, AE9RB's assembly and testing instructions via USB. This will require installing the development and flash upload application free from http://www.cyprus.com, the makers of the processor.

The firmware mods resulted in operation that was a bit kludgy to activate, but following Ron's procedure, the CW jack and CW transmit function on the Peaberry came alive. It required first that the radio be set to the magic LO frequency of 37.777777 MHz on the HDSDR screen followed by setting it to the desired Amateur band frequency and then to the CW mode of operation. Then by doing a Ctrl + Shift + i, and then using the space bar to toggle between transmit and receive, a two-way CW contact can proceed. Not the most elegant way to operate CW and certainly not QSK, but it was very manageable to make CW QSOs using my outboard "WinKeyer USB" with its own sidetone. To restore HDSDR software to normal SSB (or digital) operation, you need enter another magic LO frequency of 38.888888 MHz or kill and relaunch to application. For quick access to these "magic" frequencies, they can be set up in the HDSDR "frequency manager" along with any other desired quick access frequencies and modes commonly used.

USING THE PEABERRY

Over the last year, I have made many contacts using the Peaberry V2. I often let it transmit unattended doing WSPR on the various bands it was build for. With VSP Rig and PTT control, the WSPR application commands the HDSDR software onto the

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prescribed WSPR frequencies and asserts the TX function under the control of the WSPR app. I will typically leave it running all night and wake up in the morning and check the http://WSPRnet.org website to see where in the world the little rig has been heard.

On 20 metres with my triband beam, it often gets into VK- and ZL-land. And on 30 and 40 metres with my G5RV antenna, it's amazing the DX where the Peaberry QRP WSPR signals have been decoded and reported by the WSPRnet site. Of course, with the modulation level and RF power controls of HDSDR, the Peaberry could easily be set to run sub 30 dBm levels. It's fun to see how low you can go in QRP output using WSPR and still be heard somewhere. Equally, I have used the Peaberry with HDSDR on PSK31 to make dozens of DX contacts. And the same success applies to the ease of making two-way contacts with the WSJT-X application for JT-65 and JT-9. As mentioned previously, with HDSDR, you can open up the TX and RX audio bandpass to 5 kHz allowing access to both adjacent JT mode sub-bands at the same time. It's also been interesting making JT-65 contacts on the 60 metre channel 3 that is the designated channel for this digital mode. Curiously, it seems that JT-65 digital and USB voice contacts can coexist on the same channel without causing too much mutual QRM.

SSB OPERATION

The Peaberry and HDSDR combination sound good on SSB voice. Although QRP power levels don't provide much signal margin for two-way SSB contacts, I've had successful ragchewing QSOs on 40 and 60 metres with one watt. The excellent transmit audio quality of the Peaberry – in spite of using an inexpensive computer headset – probably contributes to the intelligibility at the other end. In addition, the HDSDR software – while having a TX microphone slider control – can also be set to self-adjust, ensuring the modulation level is just right and without distortion. This can be overridden if desired. Although HDSDR also provides AM and FM voice modulation, I have not used these modes for any active contacts. The FM mode may be useful for 10 metre operation or if the Peaberry is used with transverters for the 2m or 70 cm FM sub-bands.

THE PEABERRY AND QRO OPERATION

Although the Peaberry V2 is foremost a one-watt QRP transceiver, it will also work well as an exciter for higher power operation. I already had in my possession a Tokyo Hy-Power HL-45B (no longer available) linear amplifier rated to deliver 45 watts with five watts drive. It was designed to work with the Yaesu FT-817. I have often used this amplifier with the Peaberry V2 to give it a 10 dB boost in power output, and that then competes well with 100 watt stations during my morning roundtable schedules on 40 metre SSB.

The Peaberry provides the necessary PTT function required by such amplifiers. There is now available an ideal 50 watt power HF amplifier kit called the "Hardrock-50" from "HobbyPCB" https://www.hobbypcb.com. This amp should also work well with the Peaberry. Although the Hardrock-50 is designed for a nominal five watts of RF drive, HobbyPCB now makes available an optional driver amplifier kit for mounting inside the Hardrock enclosure to provide a full 50 watt output with only one-half to one watt of drive power. This combination should be ideal for use with the Peaberry. I have no experience with this Hardrock-50, but from all reports on the Peaberry forum, it works well. You can also buy the five watt driver kit from HobbyPCB and use it solo with the Peaberry; however, it would be wise to use supplementary bandpass filters to ensure harmonic output is suppressed properly.

CONCLUSION

The Peaberry V2, especially in kit form, is a great way to play with SDR transceiver technology. It has been a fun experience for me. It is a mighty capable QRP radio well suited, along with HDSDR, to operate the digital modes. It could even be considered as a backpacking portable rig used along with some of the new high efficiency Windows-based portable computers now available.

You will not be alone with the Peaberry. There is an active forum online at http://AE9RB.com to pose questions and get answers from the Peaberry community. I wholeheartedly recommend the Peaberry adventure for QRP. You will be delightfully surprised with its performance.

Norm Rashleigh, VE3LC, has been a Radio Amateur since 1963. All his original radio equipment was homebrew when vacuum tube technology was still supreme. Norm remembers well his first 40 metre CW transmitter that used tubes from the family's TV set. The distinct advantage was he never caused TVI at home. Either the TV worked or the transmitter, but never the two at the same time. Norm is retired from a 30-year career in Radio Systems with the RCMP. Engineering students doing their work terms at the RCMP came under Norm's tutelage and most left with their ham ticket. Norm is still involved teaching Amateur Radio and is leading the course at the Ottawa Valley Mobile Radio Club. Norm is an Accredited Examiner and has served in past years as an officer of Radio Amateurs of Canada. Norm's soldering iron is always smoldering, cooking up something in his ham shack. The subject of this article is a recent project. Norm's signals are often heard during contests and operating QRP using digital modes.

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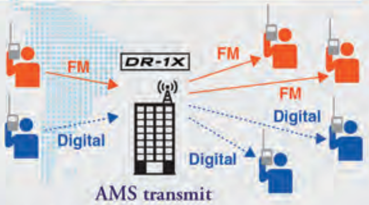
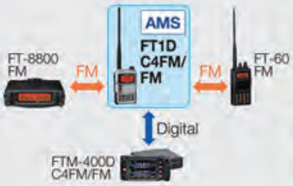


AMS transmit



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YL NEWS AND VIEWS

Val Lemko, VE5ACJ
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Well here we are in January already as I write this column for the March/April issue of TCA. We had a lovely Christmas and a very quiet New Year. The days of dressing to the nine's, staying out until the early hours of the morning, and then getting up after a couple of hours sleep to watch the Rose Bowl Parade are long gone.

I found myself in a bind for this article as I am running out of YLs who have sent me their stories. Some of the YLs that I have on my list have changed their contact information so I can't get hold of them. With the help of the Internet, I also try to get hold of the ladies who are on the New RAC Members list in TCA.

I decided to reprint an interview with a YL that Hugh, VE5HWH, submitted to the Saskatchewan Amateur Radio League's "QSO" newsletter. Of course, as the editor of the "QSO" I got permission from both parties before using it here in TCA.

So without further hesitation, I would like to introduce you to a fairly new Amateur, Summer Hartzfeld, VE5SDH.

OUR YL PROFILE: SUMMER HARTZFELD, VE5SDH

Submitted by Hugh Hauser, VE5HWH, with the permission of the Saskatchewan Amateur Radio League's "QSO" newsletter

Summer Hartzfeld, VE5SDH, was born in Melfort, Saskatchewan and moved to Regina shortly after where she has lived ever since. Summer attended Arcola School where she learned mobility skills, Braille and other skills blind people need to know to get along in the sighted world. She also attended Sheldon Williams High School. After graduation she got into making jewellery which she sells at the Regina Farmer's Market. Summer says that she has been making the jewellery mostly with semi-precious stones and sterling silver wire since 1997.

She lives in a large apartment complex in Regina with her black lab guide dog named Lake, who is also known by Saskatchewan Amateurs as VE5-K9. He is a beautiful dog, and I must admit I have a very hard time not patting him when Summer is at a fleamarket and she is sitting down beside me with Lake at her feet. I know, folks; he is a working dog, not a large lovely black dog.

Summer got involved in Amateur Radio a couple of years back when a friend was telling her about ham radio. Jim was attending classes with the Regina club and got his call sign VE5EIS. Jim mentioned the upcoming Field Day 2013. So off to Field Day she went as it sounded very interesting. She had CDs for study purposes and she did like listening to them, but Field Day is when she got "Hooked." Little did everyone know that Summer would be hit by the "ham radio bug!" She arrived at Field Day around noon, and except for a few bathroom doggie breaks for Lake, she was there until 9 pm. As she says, "yeah I got the Ham Radio bug quite badly and then I spent the next 10 days studying and taking practice exams and then I took the for real exam." She received her Basic with Honours on July 2, 2013.

After receiving her call sign, Summer then went to the home of Jerome, VE5KZ, another blind Amateur and he showed her how to operate his TS-570 – that has voice output – and also demonstrated the CW keyboard. At one point, Jerome said, "You'll have to learn CW to run the radio." What motivated Summer was tuning around the band and finding a CW station having a QSO. "It sounded so interesting and Jerome was copying it with no problem. Not knowing what was being said, I realized that I was missing out."

I remember when Summer first mentioned CW to me. I told her that if CW was sent correctly, it sounded like music to me. I have a background in music and I still associate the letters with music.

Soon after, Summer figured out how she would learn her CW. She downloaded W1AW mp3 files, and text files from the Internet. As the Morse character was being sent, she read on her refreshable Braille display what the letter was over and over again, increasing the word speed in less than two months.

She says, "Jerome was very tolerant during my first extremely nerve-wracking CW QSO. I amnot sure that I would have started learning CW as soon as I did without Jerome giving me that humorous poke to get me going. I really enjoy sending and receiving CW. It is a beautiful language. Now that I have gotten started on CW, I don't intend on giving it up. It is my favourite mode of communication."

Now of course if you are going to send code you need a key. Summer has become known as a "key collector". She says, "I mean, OK, first off I started with a straight key which was a RJ-1. The local ham club loaned me one of their radios and one of the members, Lyle, VE5EE, was so helpful and built me a loop antenna inside the apartment. It worked fairly well, and I was on the air on phone, but I was also learning CW. Later, another ham Gord, VE5UJ, gave me a 'bug' which is really quite different from a key and so I was now on a learning curve. I really enjoy working with the bugs. So far I have a total of 39 CW senders, 25 keys that include two oscillators, seven bugs, 10 hand keys, three single lever paddles and five dual-lever paddles. They all act a little different no matter how hard you try to adjust them to be the same. On my desk I have nine different keys/bugs, and I even have a mini key. The radio I now have is a TS-590S. It works great and I am having a lot of fun on the air."

When Summer is not working on CW she is probably on a 2m net. “Several of the net controllers actually talked me into become a net controller. I am on the ‘Say Good Morning with Radio’ IRLP net, as well as others. It is really good to hear hams from all over. I really enjoy talking to them. The one thing about Ham Radio is that people don’t know that I am totally blind. To them I am just another YL operator having fun with radio. In person, that is the first thing people notice, except in Val’s case, she saw Lake, said Hi to me, and proceed to give Lake a pat and a scratch.”

“The fun part of being a ham – especially in an apartment in a steel building – is trying to make contacts without an outside antenna. I told you about the small loop, and I also had an indoor dipole strung around the apartment walls that Lyle, VE5EE and Clay, VE5CTM, assembled. These antennas work, but not as efficiently as they should. This past fall, several hams got together and put a vertical on the roof of the apartment building. I’m not sure who or what hoops they had to jump through to do it, but it works great. At least now, I can get much better reception and my outgoing signal is much easier for others to copy. I really must thank Bernie, VE5BFB, who was the person who went and bugged a lot of people so that this would happen.”

“I have made some great DX contacts with the wire strung around the apartment. One contact that was short was with DXpedition TX6G at the end of March last year. They were approximately 9,000 kilometres from me. I have worked the RAC Winter Contest from the Regina Amateur Radio Association (RARA) club as VE5RAC, which was a busy few hours but I sure did have a lot of fun. I also worked the RAC Canada Day Contest out at Gord, VE5UJ’s place and, wow, what a treat to have a ‘Zero noise level on 20m’. I also love doing the public service events and of course because I can’t see, I get the cushy job of being net controller. I just sit in the mobile station and enjoy myself. I have also lately been getting onto the CLARA net on 14.120. It’s sure nice to talk to a lot of other YLs.”

For a “newbie”, Summer has really gotten into Amateur Radio and is making new friends far and wide. She checks into the 80m net in Saskatchewan, and of course she used CW. It’s amazing how fast that girl is becoming using a bug. I think her speed is 25+ wpm. She is getting a little bit too fast for me; she will have to QRS for me for a while.

Summer says her Elmers are the Regina Amateur Radio Association members and all of the other Amateurs around the province; and everyone on radio who has made her feel so welcome in this hobby.

Thanks Summer, and thanks to all who take time to read TCA. I still need girls to write about so please send me your stories or email me at ve5aq@sasktel.net. I would love to tell your story. I want to thank Hugh, VE5HWH, for giving me permission to use his interview with Summer, and letting me take liberty of changing some of it to fit in this article.

Please remember the CLARA net on Tuesdays at 1700Z on 14.120 MHZ. I hope to hear you. You do not need to be a CLARA member, we love talking to all the YLs that we can hear on frequency. That’s it for this time around folks, it’s supposedly spring on March 20, 2015, and although I used to love winter, my favourite part of it is when it’s over.

33, 73, 88 or whatever the case may be... Val, VE5ACJ

ROB STREIMER, VE4SHS, EARNS OSCAR AWARD

The Winnipeg Amateur Radio Club Inc. has awarded the OSCAR award to a deserving Amateur Radio operator since 1979. OSCAR is not presented every year, only when it is merited. OSCAR, by the way is an acronym for Outstanding Service Concerning Amateur Radio. Nobody wins OSCAR, each must earn it.

The above photo shows Rob Streimer, VE4SHS (at left), receiving his OSCAR award from David, VE4DLA, at the Christmas meeting of the Winnipeg Amateur Radio Club Inc. on December 8.

The average Amateur these days is approaching retirement age (or beyond). It is critical to involve younger people in our hobby. VE4SHS is doing exactly that. Rob is an instructor at Shaftesbury High School in Winnipeg. In the last few years he and his students (Grades 9 through 12) have launched several large balloons to over 100,000 feet. Many of his students have studied and received their Amateur licences.

The on board instrument packages were built by the students. They also include GPS and Amateur Radio transceivers. He can tell some interesting tales about chasing the balloons when the packages descend back to Earth.

Rob is also working toward building and operating the first ARISS Telebridge Amateur station in Canada from Shaftesbury High School. It is one of only a handful in the world. This station will enable students around the world to talk in real time to the International Space Station when it is within sight of Winnipeg. Can you imagine the excitement school children will have when the can speak directly to a real astronaut? Hopefully, VE4ISS will encourage more young people to become Amateurs – and possibly become engineers or scientists.

Several of Rob’s students have graduated from high school and gone on to university, taking engineering and sciences courses. More of his students are on the way to graduating and moving on to university.

For these reasons, Rob Streimer, VE4SHS, was a most deserving person to merit the OSCAR award.

Submitted by Dick Maguire, VE4HK
Winnipeg Amateur Radio Club Inc.

The Portable Multiband Dipole

Tom Hardy, VE4AKI

One of the more pleasurable activities you can engage in with your QRP station is portable operation. Whether you take it with you on vacation, make special trips just to operate or participate in QRP contests portable operation brings unique satisfaction.

One of the components of successful portable operation is the antenna you use. The antenna you choose for portable operation depends on a number of factors. Some of these are: cost, availability of supports, portability, necessity for gain/directivity and multiband capability.

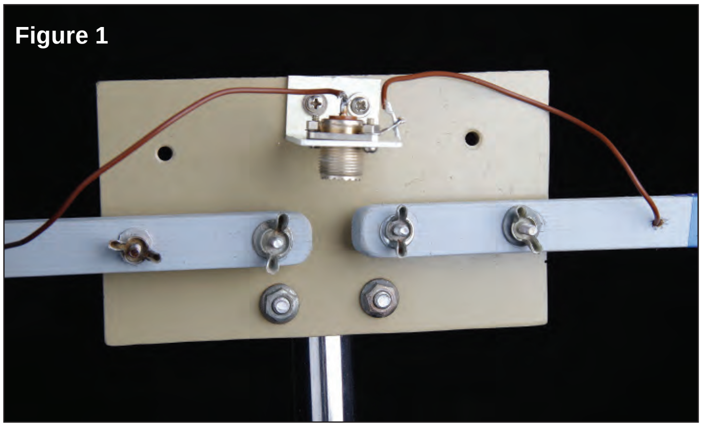
A simple wire antenna mounted in the clear will meet most of these requirements. A dipole that can be rotated is capable of multiband operation and has low cost would make an ideal portable antenna. The dipole outlined in this article has been designed to meet these three criteria as much as possible.

The desire to include all five bands from 20m to 10m, plus the need to be portable presented quite a challenge. I decided to limit the length in portable configuration to 6 feet (1.8 metres). I studied various designs and decided to use a coil-loaded dipole with capacity hats at each end.

The next problem to overcome was how to determine the inductance of the loading coils. After doing some research online I found a website by Martin Meserve, K7MEM, (http://www.k7mem.com/) which features an interactive program called Electrically Short Half Wave Dipole.

It allows you to plug in your desired dimensions and the program will do the calculations and present a number of combinations for you to choose from.

***Note:** this article was previously published in the Winnipeg ARC's "Newscaster" and is being reprinted with their permission.*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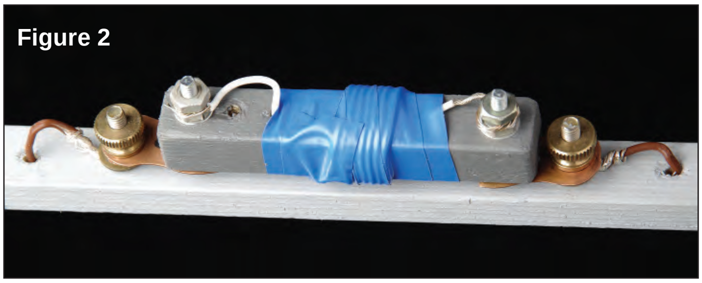
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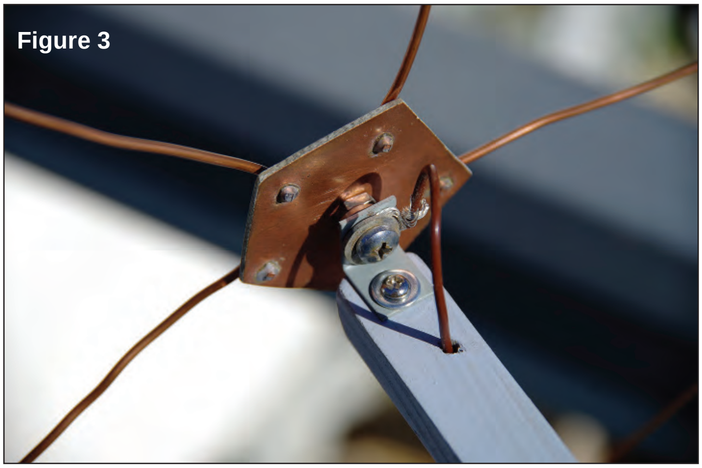
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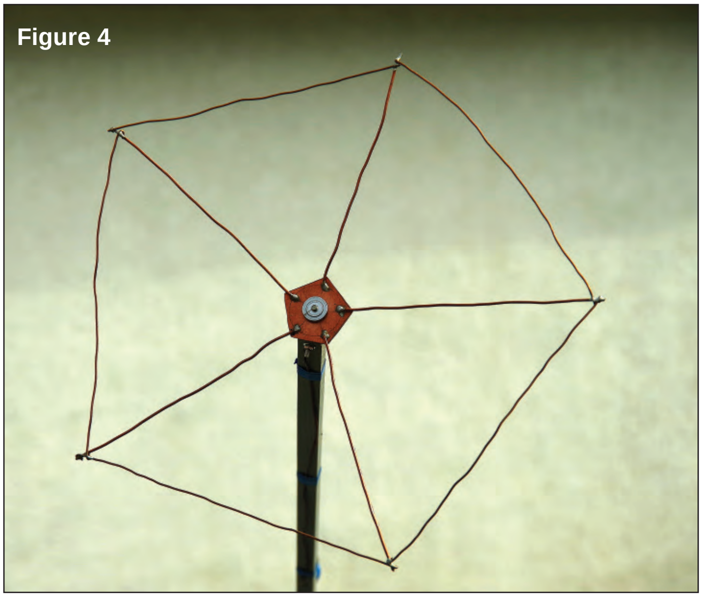
Figure 4

Figure 1: Centre Mounting Plate
Figure 2: Loading Coil for 15m
Figure 3: Capacity Hat Centre Disc
Figure 4: Capacity Hat

Using this program I selected the centre loaded configuration as the best compromise. Centre loading positions a loading coil in the centre of each dipole element.

If the loading coils are located at the ends of the elements, their inductance must be much larger to achieve resonance. If the coils are located in the centre between elements, feeding the antenna with coax becomes more difficult.

I decided to add capacitance hats at the ends of the elements. The effect of the capacitance hats is to reduce the amount of inductance needed to achieve resonance. For portable use, very large capacity hats would prove inconvenient so I chose a diameter of 360 mm as a compromise between effectiveness and portability.

To summarize, the configuration would be 3660 millimetres overall length (two 1830 mm elements); each element with a loading coil at its centre and capacity hats at each end.

The next step to deal with was to select materials to construct the antenna. Aluminum tubing would be the ideal material, but I did not have a suitable size and length in my stock of old TV and CB antennas.

The cost to purchase a small quantity from a local supplier was prohibitive (remember the low cost criteria) so I decided to use wire elements attached to wooden supports. I have used this method on other antenna projects with good success. Having a large supply of 16 gauge stranded wire on hand made this a no brainer. Using plastic pipe such as one-half inch PVC was considered, but I felt it would be too flexible and be prone to excessive droop.

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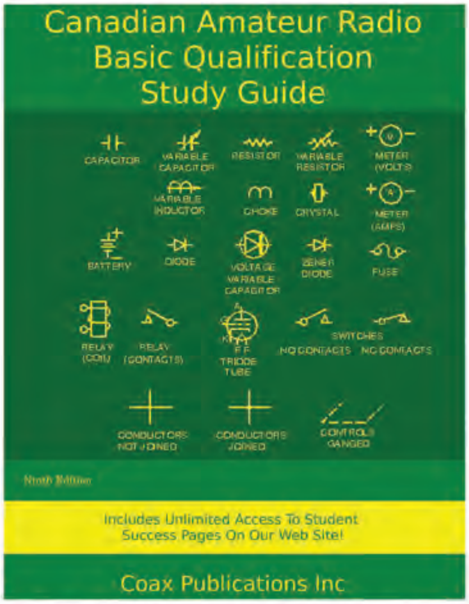

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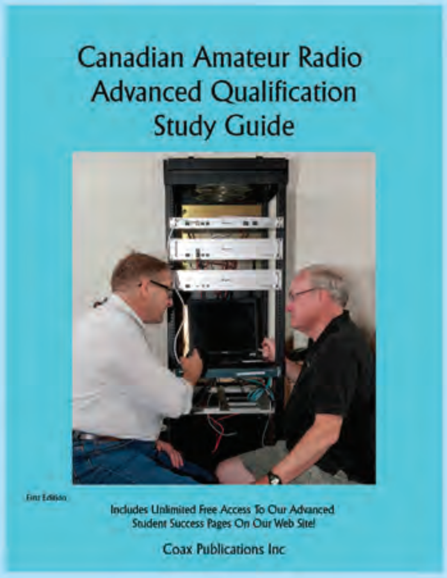

COAX Publications

A quick trip to the lumber yard proved successful. I found the perfect material: 19 mm x 12.7 mm (3/4" x 1/2") hemlock. This material has the required stiffness and the cost is very reasonable.

***Caution:** do not use finger jointed material of similar size as the joints are a weak point and are likely to fail.*

Selecting a centre insulating plate was the next step. The junkbox came to the rescue this time giving up some suitable 6 mm (1/4") phenolic sheet of suitable size 180 mm x 100 mm (7" x 4"). Quarter-inch plywood would make a suitable substitute.

I laid out to full scale how the centre plate and elements should be arranged. The antenna would be mounted to a mast with a single TV type clamp. Space was also allowed for mounting an SO-239 connector on a bracket for the feedline.

When space is limited, I insert holes to allow a 90 degree Vee configuration. This configuration may be more effective as it gets the radiating portion of the antenna higher for a given mast height.

Figure 1 on the previous page shows the general arrangement. Note the amount of slack left in the wire connected to the coax fitting to allow for the two positions of the elements.

The element material was cut to a length of 1830 mm and the centre point at 915 mm was marked. Holes were drilled at one end to match the mounting holes of the centre plate. The elements are mounted to the centre plate with #8 machine screws and wing nuts. The loading coils are mounted to the elements with #10 machine screws and thumb nuts. The screws are equally spaced about the centre point of the element with a spacing of 115 mm. Figure 2 shows the arrangement.

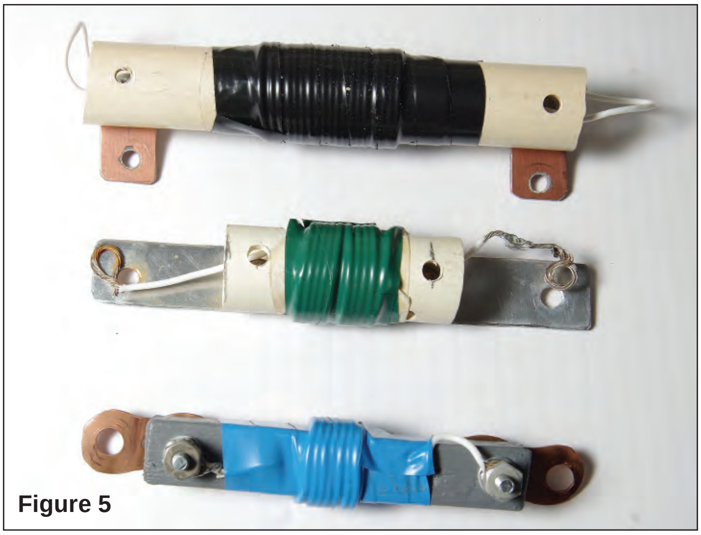

Figure 5

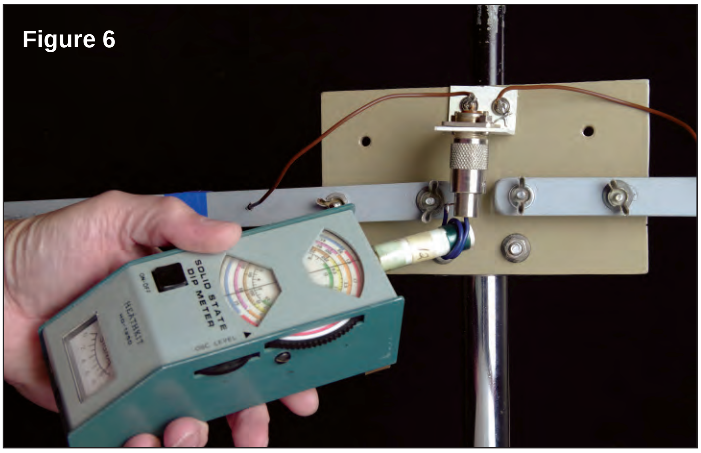

Figure 6

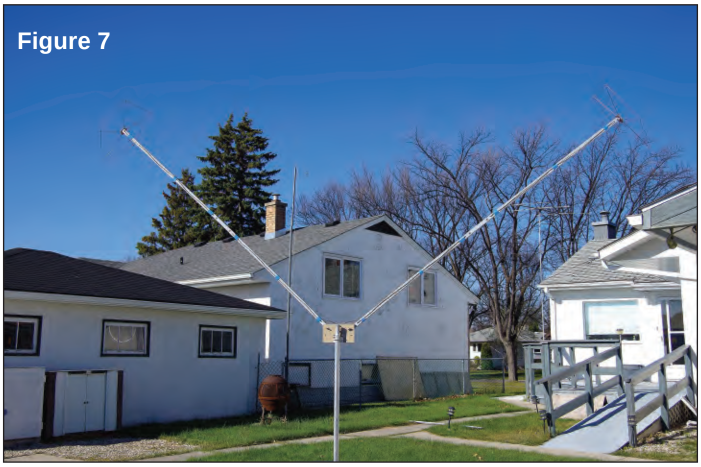

Figure 7

Small (12 mm x 12 mm) “L” shaped brackets were mounted to the element ends with #8 machine screws to allow mounting the capacity hats (see Figure 3). The wire radiators (16 gauge insulated wire) were run on the opposite side from the loading coils. The wire was held in position by feeding it through small holes near the loading coils, capacity hats and centre plate.

Additional support was provided by tape at intervals along the elements. I made the electrical connections to the coil mounting screws and capacity hats by forming the wire into loops and soldering them to prevent unraveling. Ring terminals might be a better method but this has worked for me. The wires to the coax fitting were soldered.

Figure 5: Coils for 20m, 17 and 15m
Figure 6: Dip Meter Operation
Figure 7: Antenna in Vee Configuration During Testing

***Note:** make sure you keep equivalent wires as close as you can to the same length to maintain symmetry.*

I fabricated the capacity hats from bare copper wire (12 gauge) salvaged from some house wire found in the junk box. On a whim I decided to make them in a pentagonal shape. Circular capacity hats would be just as suitable. The centre plate is made from some scraps of double-sided printed circuit (PC) boards. Figure 4 shows the configuration.

The last step in the design phase was to fabricate the loading coils. I returned to the K7MEM website and input the final dimensions into the short half-wave dipole program. The program calculated the required inductance for the dimensions that I selected. The program indicated 12.98 uh for 20m, 7.25 uh for 17m, and 4.75 uh for the 15m coils. I used the standard formula for calculating the size and number of turns:

inductance = radius^2 x turns^2 /
9 x radius + 10 x length

I was not sure of the electrical effect of the capacity hats so I decided to wind the coils per the program and remove turns to achieve resonance.

To make the 20m coil I used some 7/8-inch diameter (22 mm) PVC pipe as a coil form.

Using the above formula – and after a few trial calculations – I arrived at 24 turns to achieve the required inductance. I used the same size and type of wire that were used for the elements. I made tabs of PC board material fastened with machine screws to make the electrical connections to the dipole elements. Figures 2 and 5 show the details.

The 17m coils used the same PVC material and required 13 turns. The 15m coils were wound on wooden forms using the same material as the element support arms. They require 10 turns. Figure 5 shows the coils for the three bands.

At this point I decided to do some testing of the antenna to see what adjustments would be required. I set the antenna up outdoors about 7 feet (3.3 metres) from the ground on a short mast. An SWR meter could be used to adjust the antenna but there are better ways. The best and quickest method is to use an antenna analyzer, but lacking that luxury I fired up my old Heathkit dip meter.

The dip meter is a very useful instrument for the antenna builder. Used in the injection mode it can be used to find the resonant frequency of tuned circuits. A set of plug-in coils allow it to function from 1.6 MHz to 250 MHz. It is coupled across the open centre of a dipole with the appropriate coil in place. I use a PL-259 connector with a one- or two-turn coil soldered between the centre pin and body inserted in the SO-239 coax fitting. The meter's oscillation is adjusted to mid-scale, and the coil is inserted into the coil on the PL-259.

The frequency adjusting dial is rotated while observing the meter. When the resonant frequency is reached, the meter will drop down close to zero. Now you know why it is called a dip meter!
Because the dial calibration of most dip meters is rather approximate, I calibrate it with the station receiver. This is done by setting the receiver to the desired frequency, usually the centre of the band, and holding the meter close to the receiver. The frequency dial is rotated and when the dip meter matches the receiver the oscillation will be heard. The actual dial reading is carefully noted and the dip meter is ready for use. Figure 6 shows the dip meter in use.

This procedure was used to adjust the coils to resonate the antenna on the lower three bands. Final coil turns were as follows: 20m: 20 turns; 17m: 10 turns; and 15m: 6 turns. Figure 6 on the previous page shows the dip meter in use.

For the remaining two bands I decided to try a different approach to achieve resonance. For the 12m band, I used the 15m coil and replaced the capacity hats with one-metre (three-foot) pigtails. By using the dip meter and clipping the pigtails I achieved resonance in the centre of the band. The final length of the pigtail was 680 millimetres or 27 inches.

For the 10m band, the coil junctions were shorted with a 150 millimetre (six-inch) loop of wire and the capacity hats were replaced with 600 millimetre (24-inch) pigtails. I used the same procedure to find resonance resulting in 450 millimetres (18-inch) pigtails.

The final step in antenna adjustment was to conduct SWR readings for each band. I raised the antenna to three metres (10 feet), attached the feedline and ran SWR checks across each band. The results are shown in the SWR charts on the RAC website at http://wp.rac.ca/tca-content-march-april-2015/. The SWR results are much as expected for a coil-loaded short dipole although the 15m SWR at 2.8:1 seems a bit high. Further adjustment may bring this down. Losses at this frequency with a short feedline are acceptable and I usually use a small homebrew tuner to keep the rig happy.

Actual on the air tests at a height of three metres (10 feet) proved this antenna could be effective under a variety of band conditions. Under somewhat poor conditions successful contacts were made in Hawaii, Ireland, Belgium and Germany at the 50 watt level using SSB. A number of contacts were made at the 10 watt level (SSB) throughout the US and Central America. The antenna was used in the "VEE" configuration for these results Figure 7 shows the finished antenna.

So does this antenna meet the design objectives? It cost very little, it is compact enough to put in my van on camping trips and it has proved to be effective at making contacts. I am pleased with the results and look forward to using it on more portable outings in the future.

Tom Hardy, VE4AKI, lives in Winnipeg and is a retired vocational teacher who has been a licensed Amateur for 30 years. He holds an Advanced class licence and is active on all the HF bands as well as 6 metres. He has been involved in QRP activity for over 20 years, both CW as well as SSB. "I enjoy designing and building all kinds of ham equipment especially antennas. I live on a small city lot and am currently concentrating on limited space antennas."

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"I was leafing through the January-February 2015 issue of TCA which just arrived yesterday when I was delighted to see you had not forgotten my Sydney Opera House Project article (on page 28). Good for you. So here I am back in Sooke on Vancouver Island after 32 years with no intention – or the strength – to move again... Still only in the 2m mode after the move in July but that will change with towers and antennas going up this summer – probably also some solar emergency power. I'm also sending you a pix of the 'opera house' in case somebody asks."

– Andy Neimers, VA7FJT

RANDOM THOUGHTS...

Been there, done that, got the antenna...

Dirk Moraal, VY1NM
Box 75
Tagish, YT Y0B 1T0

For any new Amateur, the easiest and most pleasant hobby busy work to engage in is building that first antenna.

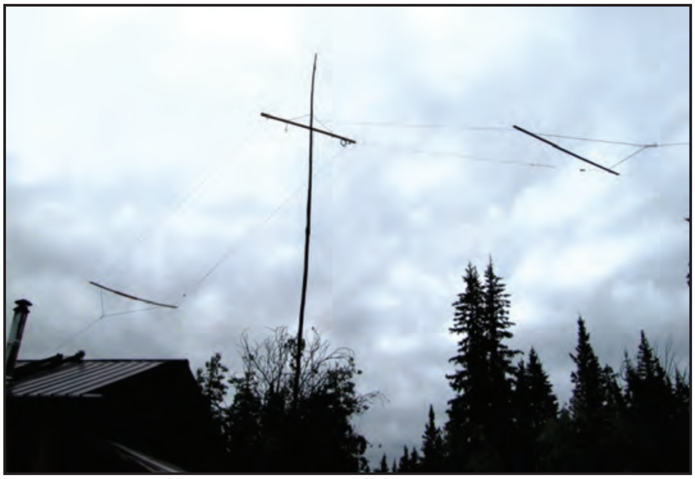
Antenna work usually starts with a dipole, perhaps an inverted V because it doesn't take so long to erect and we are anxious to get on the air, or a 2m ground plane because we can make them easily – in fact many a repeater has probably been activated by a piece of judiciously cut coat hanger and some small coax.

I know this to be true as it is what I did. However, living North of Sixty does make it tougher to get many contacts so eventually I started trying for more distance.

Armed only with the RAC study manuals, I made some progress, but finally broke open the piggy bank and bought some antenna books, and my goodness! The bewildering list of antennas kept me reading and trying to figure out which was best for my needs.

Eventually I decided, right or wrong, that half of the books were valid if you had a tube transmitter that was very tolerant of SWR, and the other half was equally divided between ingenious and practical antennas for modern radios.

And while almost any metal ladder or rain gutter will resonate if you use a transmatch, you have to ask yourself if you ended up with a great antenna or a mediocre one.



All this information needs to be digested and, like Thanksgiving or Christmas dinner, benefits from a longish period of inactivity afterwards. And so it was. Work commitments took me to various interesting places, but one day I found myself back where I started from and I rediscovered my books. I re-read the RAC manuals. I re-read the antenna books and gave a bunch of them away, and came to roughly the same conclusions as before. Then, I ignored all I had read and put up another inverted V dipole *because it doesn't take so long to erect and I was anxious to get on the air.* This one worked OK and I managed to push some electrons around but not many.

Over the dark –40° winter I tried a few different configurations, heights and angles, plus one experimental antenna made with 450 Ω ladder line for the radiator, twisted into a loose cork screw and nailed up the side of a spruce pole. One good day propagation favoured me and Hawaii hove into view, and then quite a few stations from VE6-land. Next was a nice old feller in North Carolina and I was HOT! And I made a friend. Many of you will remember Chuck, VE3AZA (SK), one of the best of CW operators, who could decode 60 plus words a minute. *In his head.* Chuck was licensed in the early 1930s and had a varied career as Radio Operator on the West Coast, before and during WWII and later with CP Air as a radio operator and dispatcher. We kept in touch regularly, and I am not the only one who misses him. I recently heard a lonesome CQ call for VE3AZA. But there was no reply.

Eventually as propagation improved, I noticed that from my QTH, 20m worked best. So I decided to make an antenna to capitalise on that. Limited by availability, but being a bit of a scrounger I collected some spruce poles from my backyard and some old wire consigned to the dump (in the North you do what you have to), plus some rope someone had given me, and bethought myself to make a two-element Yagi-Uda such as the one invented by Mr Uda and Mr Yagi decades ago. (Mr Uda is almost forgotten while Mr Yagi got all the fame). I mean, after all, the laws of physics don't change overmuch with the years. But I was going to put my own personal touch to it.

I would configure it inverted V, I would use scrap materials, and I would make it very easy to adjust so I could easily optimize the antenna. A lot of pleasant messing about happened and finally the spruce poles were peeled and scarfed together, wires were measured and cut for midband – close to our Canadian 20 metre calling frequency – and I was on the air making contacts all over Canada, the US, South America and exotics (to me) such as Morocco, Azores, Madeira, some /MM stations out in the Atlantic, then plenty in Japan, a few islands in the Pacific, and some Russian stations. I even had one contact with Central Africa (TL2ARD) which I think was a hoax, and then one day someone accused me of being a DXer. Well, I never...

All of that was on less than 70 watts with a couple of wires up a dead spruce pole. Now, I would like to say this antenna was an original, but I can't. Sometime after I had the antenna in the air, I bought the latest *ARRL Antenna Book* (my first) and found that an almost identical two-wire inverted V by VE7CA was featured therein. Only the band and dimensions were different. And my brilliant idea of making the reflector longer than the conventional dimension to increase gain also was not a new idea.

Bill, VE4KZ, modelled the antenna for me and I was pleased and surprised with a first pass 10 dBi gain reported but I realize that it requires closer scrutiny. Bill mentioned that the 2 dB FS and 2 dB FB were a bit suspect and that the probable cause was wrong element spacing. Bill also modelled a three-element Yagi-Uda for me, both with eight-foot and 16-foot booms. The gain, according to EZNEC was only 1 dB greater than the two-element model, and the eight-foot boom had the better FS and FB.

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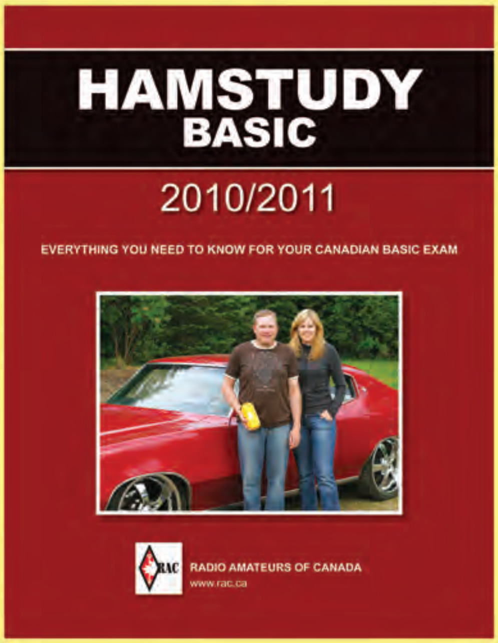
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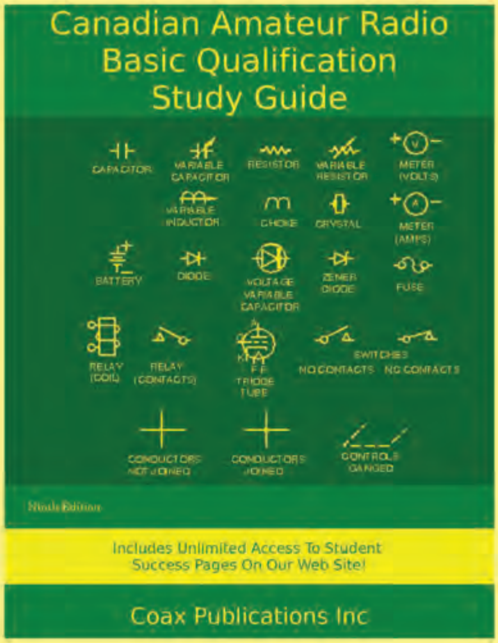

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However, I was content and, according to my Comet analyzer, my prototype was very close to 50 ohms resistance with very low SWR over the portion of the band I was interested in so I used it as it was.

As close as I can remember, here is how I built my version. Dimensions are in feet but you can convert to metric by multiplying feet x .3048 and inches x 2.54.

A two-element Inverted Vee wire Yagi-Uda at VY1NM

Parts

- One 2 inch x 2 inch 8-foot dimension lumber or equivalent 8-foot long dry spruce pole
- Two 2 inch x 1 inch 8-foot dimension lumber or equivalent 8-foot long dry spruce poles
- One piece of 35-foot wire for reflector, 16 gauge plastic covered
- Two pieces of 16.5-foot wires, for driven element (a dipole)
- One-quarter-inch nylon rope or braided cord for making V slings and guy ropes
- One dog bone insulator (or a piece of 1/2 inch diameter CPVC, 3 inches long)
- One small pulley and some wire to attach it with
- One-quarter or 3/16 nylon braided rope, for halyard
- Some 16-foot 2x4s or spruce poles for mast
- Some zip straps (tie wraps) and small tools and other bits and pieces I am sure I have forgotten
- RG-8X coax or larger

1) The spacing between reflector and driven element is seven feet. Drill holes through both tips of the outboard spreaders, (at four inches for the rope and at six inches for the wire, in from the ends). Holes are sized to admit the wires and the V sling ropes.

2) Drill holes in the rear end of the centre spreader six inches in from the tip, to admit the reflector wire. I used an eye-screw on the front so I had to drill a small pilot hole. Drill two more holes vertically (90 degrees from the wire holes) and four feet in from each end, to admit the V sling rope which will hang the antenna from the mast.

3) Reflector: Lay the three spreaders on the ground 16 feet from one to the other (more or less) and mark the exact centre of the reflector wire and run the wire through the hole in the back end of the centre spreader, tie off at midpoint with a knot or two to make sure the wire cannot slip in the hole. Then tie off the tips of the reflector wire to the ends of the outboard spreaders. I drilled and tied mine so that the 1x2s lay flat, horizontal to the ground, believing it would be stronger this way. (I upgraded to store bought lumber for this writing)

4) Driven element (a dipole): Fasten the insulator to the underside of the front end of the centre spreader, six inches in from the end. A long screw or bolt through the insulator and into the spreader will do nicely. Fasten the dipole legs to the ends of the centre insulator leaving enough wire to connect to the coax. Measure 15 feet out and bend the wire back up along the leg, forming a small loop at the end of the leg, with the surplus wire snaked around the long part of the wire and stretched as far back up the leg as possible. Use tape to secure the end in place, for now.

Note: This method allows you to adjust the dipole for resonance any number of times, without having to cut and solder the ends of the wire.

Do the same to the other leg. Then use some nylon mason line to secure the loop end of the wires to the holes on the front ends of the outboard spreaders by running the mason line through those "wire" holes. The employment of insulators at the ends of the dipole legs is not a bad idea but my first antenna worked fine without insulators. Now stretch out the antenna and tie off so it is neat and square.

5) Make two V slings for the outboard spreaders. You will use about 16 feet of one-quarter-inch nylon rope per side. Tie an overhand knot to leave a loop at the centre of the sling rope. Run loose ends through the appropriate holes on the ends of the spreaders. The V sling on the centre spreader is shorter and heavier, and goes above so the 2x2 spreader hangs from it. Do not make it too long or that will reduce the height you can obtain from your mast.

Note: You can "point" this antenna by moving the guy ropes around to "rotate" the beam.

6) *Please do not use coax with foam dielectric ("minifoam") for the choke as coiling it makes the centre wire migrate to the outer shield and will short the transmission line.*

Knowing this, I used the right type of coax and built a common mode choke on the antenna feedpoint end of the feedline, by making eight turns out of eight feet of coax, leaving a six-inch lead for attaching to antenna feedpoints. Secure the coil using UV resistant zip straps ("tie wraps") to the front end of the centre spreader (close to the dog bone insulator) taking care not to crush the dielectric. Solder coax to antenna feedpoints, waterproof and then bring and attach the coax to about the midpoint of the centre spreader so it can hang down vertically and help balance the antenna when it is raised. Make sure the bend is a broad curve so the dielectric is not squashed. I used heat to bend a length of plastic tubing to help stiffen the coax here. Almost done!

7) At my QTH, the antenna seems to like 36 feet as a working height for a skip distance of 2500 kilometres – the best I could do with the spruce poles joined together like that – but it also worked just fine at about 25 feet. Any simple spruce pole arrangement works. I once made a mast that is easy to raise and lower out of three 20-foot 2x4s. A stub of 2x4 or 4x4 is driven into the ground and is used with rebar to make a hinge. A second piece of rebar through all three 2x4s, two or three feet above or below the hinge point, will pin the mast. But once up, three mast guy ropes will keep it from toppling. I fastened my mast to a shed for stability. You probably have a better idea or materials already at hand.

Fasten the pulley to the top of the mast and run the halyard into the pulley. Slide the butt of the mast inside the rectangle of the antenna near the centre spreader for ease of installation. Raise the mast. Tie the centre V sling to the halyard end (previously brought down to ground level) to raise your antenna. Haul the antenna up. Tie off the antenna guy ropes.

I found that a 120 degree included angle is about right for a 50 ohm match. Test the antenna system for resonance. Tune the antenna system by changing the length of the legs of the dipole equally on each side. 14.150 MHz seemed to work to good advantage. That gave me 1.2:1 and less SWR from 14025 MHz to 14300 MHz or better, without a tuner, depending on how moist the air was that day. This will probably vary from place to place.

I noticed that a metal mast seems to reduce the efficacy of the antenna, perhaps by detuning the wire Yagi a bit.

Note: Being able to easily raise or lower the antenna with the pulley and rope up to a maximum of 5/8 λ may also aid in adjusting the skip distance.)

8) I have tuned this antenna to 40, 20, 17, 15, 12 and 10 metres with a transmatch. However, it always worked best if operated on the band it was cut for, which was 20m.

9) Any mistakes are mine. Beware!

The antenna is also scalable up or down using this formula:

Desired new dimensions = original design frequency / desired design frequency X original dimension

AMATEUR RADIO EXHIBIT STATION VE3JW CLOSED UNTIL 2017

Maurice-André Vigneault, VE3VIG

We had a nasty surprise for my birthday, September 11. We were locked out of the Canada Science and Technology Museum as the CSTMC (Corporation) overlooking the museum closed and condemned the whole museum for safety and health reasons.

During their annual inspection in September, the maintenance personnel discovered some moisture on the south wall. Investigating further into the wall, "airborne mould" was inadvertently released, endangering personnel and the museum artefacts. They quickly took steps to protect everything and everyone by evacuating and declaring the area out of bounds.

The Canada Science and Technology Museum (CSTM) was opened in 1967 as a Centennial Project celebrating the 1867 Confederation. Coincidentally, the new project was located at "1867" St-Laurent Boulevard in Ottawa. It is housed in what used to be a bakery and they only enough space to exhibit 85% of the inventory of artefacts at any one time.

During their September inspection, they also found that the roof was leaking and presented a danger of collapse in certain areas. A few weeks after the closing of the museum, I wanted to verify our VE3JW equipment to ensure that it was protected. A security guard informed me that all access was denied except through a decontamination room where I would be properly suited, and through which I would be decontaminated on the way out. I was also informed that all equipment would have to be decontaminated before being released to the outside.

The CSTMC has plans for the construction of a new and larger museum elsewhere in the Capital Region but money was never available for such a project. The Government of Canada has decided to budget about $80 million for the repair and reopening of the museum at the same location. It is estimated that the reopening will coincide with the 150th anniversary of Confederation in 2017, which will bring the CSTM into its 50th year.

The Ottawa Valley Mobile Radio Club (OVMRC) has offered its services to reconfigure and put into operation a new VE3JW station in agreement with the museum's plans and wishes. In the meantime, the Corporation has hosted the OVMRC schedule of commitments at the Canada Aviation and Space Museum where we will conduct our Amateur Radio Course and hold our monthly club meetings.

CANADA SCIENCE AND TECHNOLOGY MUSEUM
MUSÉE DES SCIENCES ET DE LA TECHNOLOGIE DU CANADA

In October, we approached the CASM with a new project aimed at providing an exhibit, which would highlight aeronautical and space communications since it is an important facet of aviation and space, and for which there is no such exhibit at the present. The idea is to assemble a mock Control Tower, but with Amateur Radio equipment.

The CASM is very much interested in the project as it coincides with one of their long-time desires to have a Control Tower exhibit. Unfortunately, at this time the financial situation is not favourable to proceed with the project. We informed the museum of a newly acquired connection with Nav Canada who would be willing to help with such a project. In fact, Nav Canada has already helped to build such an exhibit at a museum west of Ottawa.

If a Control Tower is not feasable at this time, we suggested that we could exhibit Amateur Radio Satellite Communications equipment, which would also be used for Amateur Radio on the International Space Station (ARISS) contacts during their summer camps, in order to link students with astronauts on the International Space Station. We already have a core of operators that would gladly volunteer.

While the CASM is deliberating, it is our utmost desire and hope for the new year to have an affirmative answer on this very interesting new project. It certainly would add a plus factor at the CASM and for Amateur Radio in the Capital Region.

AN UPDATE ON ARISS IN CANADA

Although the Chris Hadfield super mission has ended the Amateur Radio on the International Space Station (ARISS) program – which is an education-oriented program – still carries on all over the world. And that includes Canada. Participants in an ARISS contact enjoy a once-in-a-lifetime opportunity to talk with an astronaut who is literally out of this world – and they cherish that moment forever.

Although there have been fewer contacts since Colonel Hadfield's highly successful mission – with 18 contacts with Canadian schools and groups – there are openings available from time to time.

To participate in an ARISS contact, schools and other groups have to submit an educational proposal which shows how they will be prepared for the contact. In addition, since one of the goals of ARISS is to "inspire an interest in science, technology, engineering and math (STEM) subjects and in STEM careers among young people", the proposal also has to have a STEM-related component.

I served for a period of five years as Canada's AMSAT delegate on the ARISS International Working Goup and I was the ARISS Canada representative on the ARISS School Selection Committee. During that time I coordinated and participated in many ARISS contacts and it was a very exciting experience every time.

Stephan Wagener, VE4SW, in Winnipeg now handles the applications along with our ARISS mentors covering the country from coast to coast.

Wayne Harasimovitch, VE1WPH, in Halifax looks after the Maritimes and East Coast; Steve McFarlane, VE3TBD, in Ottawa oversees Central Canada and the North; and Brian Jackson, VE6JBJ, in Calgary takes care of the Western area.

As Amateur Radio operators, you too can join in the fun and excitement of an ARISS contact from your region. For more information visit the AMSAT/ARISS website at http://www.ariss.org. The application form and instructions are found there as well as instructions for setting up a contact. if you need help you can contact me at ve3vig@ncf.ca.

Its been great fun and a rewarding experience to work on the ARISS program. I continue to contribute with our ARISS Operations Team here in Ottawa and as mentioned earlier I am looking forward to setting up contacts for the Canada Aviation and Space Museum summer camps.

Join us and enjoy the excitement!

TCA

QRP INFORMATION SOURCES

Bill Karle, VE1YY

The following is a list of references that you might use as you explore low power operating. The scope of QRP is as wide as Amateur Radio in general. There are technical and operating pursuits. Amateurs like to share information; therefore, blogs, groups and forums are listed. QRP is an international interest so some DX sources are included.

This is a representative, not an exhaustive list. While people often think of QRP as emphasizing CW, there are other modes – such as SSB and digital – which are applied under low power conditions. You will find sites about these communication modes. Most of the references lead to online sites for ease of access, while some books are listed as well. Sites about rigs and antennas are legion but are *not* included because the topics often are not exclusive to QRP. Besides, we'd run out of space just listing interesting ones! The reader is invited to look for what's wanted. Sites offering possible pirated copies of copyrighted content are not included. Stale sites are avoided, if known.

Any citation here does not mean that the researcher, TCA or Radio Amateurs of Canada endorse, guarantee or approve the content of the book or online reference or any related references. All references are offered with a "Caveat Emptor", "Buyer Beware" and "come to your own decision" attitude.

CLUBS AND ORGANIZATIONS

Flying Pigs QRP Club, International	http://www.fpqrp.org
GQRP Club	http://www.gqrp.com/index.htm
HF Pack (portable, QRP or QRP, ops)	http://www.hfpack.com
Little Thunder QRP Club	http://my.tbaytel.net/flesnick/ LittleThunderQRPClub.htm
Ottawa Valley QRP Society	http://www.qsl.net/va3ovq/VA3OVQ/Welcome.html
QRP Amateur Radio Club International	http://www.qrparci.org
Summits on the Air	http://www.sota.org.uk
QRP Radio Club Websites as of 2013	http://www.w0ch.net/clubs/qrp_clubs.htm

SITES WITH OVERVIEWS OF QRP

ARRL	http://www.arrl.org/qrp-low-power-operating http://www.arrl.org/why-qrp
G3XBM	http://www.g3xbm.co.uk
QRP Transceiver	http://www.qrptransceiver.com
QRP Portal	http://www.qrpp.org
K3WWP	http://home.windstream.net/johnshan/qrp_ss.html
VE3XD	http://www.ve3xd.com/qrp.htm
VE6BPR/ VA6CW	http://www.qsl.net/ve6bpr
VK3YE	http://www.vk3ye.com
Wikipedia	http://en.wikipedia.org/wiki/QRP_operation

PRODUCT MANUFACTURERS

Elecraft	http://www.elecraft.com
Five Dash – source of Soft Rock rigs	http://fivedash.com
Flex Radio	http://www.flexradio.com/amateur-products/
Four State QRP Group	http://www.4sqrp.com
GQRP Club	http://www.gqrp.com/sales.htm
Hendricks QRP Kits	http://www.qrpkits.com
Juma Kits	http://www.jumaradio.com/juma
Kanga US	http://www.kangaus.com
LNR Precision	http://www.LnRprecision.com
MFJ Enterprises	http://www.mfjenterprises.com
Oak Hills Research	http://www.ohr.com
Open QRP	http://www.openqrp.ca
QRP Labs	http://www.qrp-labs.com
QRPme	http://www.qrpme.com
QRP Works	https://www.qrpworks.com
SDR Kits	http://www.sdr-kits.net
Small Wonder Labs	See QRPme
Sota Beams	http://www.sotabeams.co.uk
TenTec	http://www.tentec.com
Wilderness Radio	http://www.fix.net/~jparker/wild.html
YouKits Canada	http://www.youkits.com

PRODUCT REVIEWS

DXZone	http://www.dxzone.com (click on "Reviews')
eHam.net	http://www.eham.net/reviews/products/22
Hamuniverse.com	http://www.hamuniverse.com/ hamequipmentreviews.html
Magazines	issues of CQ, RadCom, QEX, QST

PROPAGATION AIDS

DL8WF "List of 700 SW Beacons Worldwide…"	http://www.dl8wx.de/baken_kw.htm
DX Summit-spots	http://new.dxsummit.fi/#/ (note filtering for "QRP")
Four State QRP Group-spots	http://www.qrpspots.com
"G3USF's Worldwide List of HF Beacons"	http://www.keele.ac.uk/depts/por/28.htm
PSK Reporter-spots	http://pskreporter.info
Reverse Beacon Network-spots	http://www.reversebeacon.net
WSPR Net Beacon Spots	http://wsprnet.org/drupal/wsprnet/map

YAHOO GROUPS AND EHAM.NET FORUMS

YouKits	https://groups.yahoo.com/neo/groups/YouKits_Canada/info
QRP Canada	https://groups.yahoo.com/neo/groups/QRP_Canada/info
TenTec	https://groups.yahoo.com/neo/groups/TenTecR40Series/info
QRPp	https://groups.yahoo.com/neo/groups/QRPp-I/info
Ottawa Valley QRP Society	https://groups.yahoo.com/neo/groups/ov-qrp/info
Australia and New Zealand	https://groups.yahoo.com/neo/groups/vkzlqrp/info
eHam – Backpacking	http://forums.qrz.com/showthread.php?192539-Backpacking-with-Ham-Radio
eHam – QRP	http://www.eham.net/ehamforum/smf/index.php?board=23.0

QRP BLOGS

Adventure Radio Society	http://www.arsqrp.blogspot.ca
G3XBM	http://g3xbm-qrp.blogspot.ca
LA3ZA	http://la3za.blogspot.ca
PA1B	http://pa1b-qrp.blogspot.ca
JQ2UOZ (take a look at his maps!)	http://jq2uoz.blogspot.ca
K4SWL	http://www.qrper.com
N0HYD	http://www.n0hyd.com/p/portable-qrp-antenna.html
QRP Zone	http://qrpzone.com
VE3HG	https://ve3hg.wordpress.com/category/qrp/
VE3WDM	http://ve3wdm.blogspot.ca
VA3SIE	http://www.va3sie.com/blog/
W2LJ	http://w2lj.blogspot.ca
VA3QV	http://va3qv.wordpress.com
Upper Canada QRP Society	http://qrpve3.blogspot.ca
VE1ZAC	http://www.ve1zac.com
VK3ZPF – QRP and portable	http://vk3zpf.com

QRPp WEBSITES

Those interested in *below* one watt operation may want to check these few QRPp websites including QRSS and WSPR.

AE5K presentation on QRPp and QRSS	ae5k.us/qrpp/QRPp_ArkieCon.ppt
PA1B	http://a29.veron.nl/pa1b.htm
QRPp International	http://www.indianapolis.net/QRPp-I/
WD3P	http://www.wd3p.net
Weak Signal Propagation Reporter	http://wsprnet.org/drupal/ http://physics.princeton.edu/pulsar/k1jt/wspr.html

QRP AWARDS

Many well-known awards have QRP versions such as QRP DXCC: http://www.arrl.org/qrp-dxcc. Here are some other awards.

30 Meters Digital Group	http://www.30mdg.org/qrp.html
Croatian QRP Club	http://cw-ctc.com/index.php/hr/content/50.htm
Czech Republic QRP Club	http://okqrp.fud.cz/awards.html
European Phase Shift Keying Club	http://eu.srars.org (search for awards)
Elecraft	http://www.elecraft.com/elecraft_awards.htm
FISTS CW Club	http://www.fistsna.org/awards.html#oneXQRP
GQRP Club	http://www.gqrp.com/awards.htm
North American QRP CW Club	http://www.naqcc.info/awards.html
QRP Amateur Radio Club International	http://www.qrparci.org/awards
Radio Amateurs of Canada	https://www.rac.ca/en/rac/services/awards/cdn-awards.php#Canadian
Straight Key Century Club	http://www.skccgroup.com/operating_awards/qrp_awards/
VA3JFF Canadian QRP Award	http://www3.sympatico.ca/wjhetherington/cqa.htm
VK QRP Club	http://vkqrpclub.org/qrp_new/qrp1_awards_page.php
The K1BV DX Awards (look for QRP awards)	http://www.dxawards.com

QRP BOOKS

Richard H. Arland. *ARRL's Low Power Communication: The Art and Science of QRP.* Newington: ARRL, 2007.
Doug Demaw. *W1FB's QRP notebook*, 2nd Edition. Newington: ARRL, 1991.
Rev. George Dobbs, G3RJV. *QRP basics*. Bedford, UK: RSGB, 2003.
Joel P. Klienman, (compiler). *QRP Power: The Best Recent QRP Articles from QST, QEX, and The ARRL Handbook.* Newington: ARRL, 1996.
Bob Schetgen, KU7G (ed.). *QRP Classics: The Best QRP Projects from QST and the ARRL Handbook*. Newington, CT: ARRL, 1990.
Ward Silver. *Ham Radio for Dummies*®. Hoboken, NJ: Wiley Publishing, Inc., 2004. See p. 189ff.
Adrian Weiss, W0RSP. *History of QRP in the US*, 1924-1960. Green Valley, Az. Milliwatt QRP Books, 1987.
Adrian Weiss, W0RSP. *The Five-Watt QRP movement in the US, 1968-1981.* Green Valley, Az. Milliwatt QRP Books, 2012. This book is freely downloadable from the author's site at: http://www.qrpdxpropagationantennas.com
Mark Wilson, (compiler). More QRP power: the best recent QRP articles from QST, and QEX. Newington: ARRL, 2006.

RAC CANADA DAY CONTEST 2014 RESULTS

Bart Ritchie, VE5CPU and Sam Ferris, VE5SF

With Canada Day falling on a Tuesday this year, it was expected that we would see a lower level of activity compared to those times when it falls on a weekend around the world. The level of participation is really in line with prior years when the holiday falls within the normal work week.

Gabor Horvath, VE7JH, did not let this interfere with setting a new record in the SOABCW category. He bumped up the old record by just over 28,000 points with a score of 218,040. Following on that trend Igor Slakva, VE3ZF and his team using the VA3RAC call sign set a new record in the MOSTLP with a score of 415,166 increasing that result by 35,866 points. Great efforts by both teams!

Once again there were notable comments around propagation, especially from those outside of North America.

With that bit of introduction, on with the detailed results!

SINGLE OP ALL BANDS HIGH POWER

Tom Nail, WA2BCK, wins the SOABHP plaque sponsored by Radioworld with a score of 324,610. Tom also takes the Larry Kayser, VA3LK Memorial Plaque sponsored by Alan Goodacre ,VE3HX, for the Top Scoring Single Operator's Foreign Entry – any authorized power.

David Weiner, VE3BZ, takes second place this year with a score of 311,100 and John Laney, K4BAI, takes the third place finish this year with a score of 116,928.

SINGLE OP ALL BANDS LOW POWER

Ed Richardson, VE4VT, piloted his station to a first place finish in the SOABLP category and takes the plaque sponsored by Contest Club Ontario with a score of 372,324. Dick Van Zandt, K9OM, takes second place this year with a score of 232,812. Third place goes to Ed Henderson, VE4YU, utilizing the VE4RAC call and generating a score of 193,492.

SINGLE OP – QRP

For a second year in a row Thomas J. Warren, K3TW, takes the first place plaque in the SOABQRP category sponsored by QRP Canada with a score of 56,280. Second place goes to James Davidson, VA3WR, with a score of 47,360. Third place goes to Bob Sharp, VA3QV, with a score of 27,000 points.

SINGLE OP ALL BAND PHONE

Gus Treewater, VE7GTC, takes first place this year capturing the SOABPH plaque sponsored by the Saskatchewan Contest Club with a score of 141,208. Richard Thompson, VE7XT, takes second place with a score of 121,830 and Dan Fiechter, VE7SO, takes third place with a score of 113,900.

PLAQUE WINNERS

Single Operator All Bands High Power
Sponsored by Radioworld
Tom Nail, WA2BCK, with a score of 324,610

Single Operator All Bands Low Power
Sponsored by Contest Club Ontario
Ed Richardson, VE4VT, with a score of 372,324

Single Operator All Bands – QRP
Sponsored by QRP Canada
Thomas J. Warren, K3TW, with a score of 56,280

Single Operator All Band Any Authorized Power – Phone
Sponsored by Saskatchewan Contest Club
Gus Treewater, VE7GTC, with a score of 141,208

Single Operator All Band Any Authorized Power – CW
Sponsored by Maritime Contest Club
Gabor Horvath, VE7JH, with a score of 218,040

Single Operator Single Band Any Authorized Power Level
Sponsored by Radioworld
John Boudreau, VE8EV, operating as VE8RAC, with a score of 121,946

Multi-Operator Single Transmitter High Power
Sponsored by Alfa Radio
Tony Osman, VE3RZ, with a score of 106,352

Multi-Operator Single Transmitter Low Power
Tony Allsop, VE3FTA Memorial Sponsored by Mississauga ARC
VA3RAC with a score of 415,166
Ops: VE3ZF, VE3KAO, VE3HZQ

Multi-Operator Multi Transmitter Any Authorized Power Level
Sponsored by Radioworld
VE7RAC with a score of 537,240
Ops: VA7NF, VA7NLF, VE7ACN, VE7BC, VE7IO, VE7TI

Top Scoring Single Operator Foreign Entry
Larry Kayser, VA3LK memorial plaque sponsored by Alan Goodacre VE3HX
Tom Nail, WA2BCK, with a score of 324,610

SINGLE OP ALL BAND CW

Gabor Horvath, VE7JH, repeats in this category and takes first place with a score of 218,040 capturing the SOABCW plaque sponsored by the Maritime Contest Club. Second place goes to Victor, VA2WA, with a score of 160,380. Bill O'Kain, K4LTA, rounds up third place with a score of 110,408.

SOABCW is once again the most popular category in the contest attracting 86 of the 390 entries this year.

SINGLE OP SINGLE BAND

Twenty metres continues to be the main band for those in the SOSB category and again produced the top three scores in this category. John Boudreau, VE8EV, using the VE8RAC call sign takes first place, wining the SOSB plaque sponsored by Radioworld with a score of 121,946. Vassily Podkovalnikov, UA1AFT, takes second place with a score of 50,324. Our our top three rounds out with David Shipman, VA7AM, having a 23,980 point tally.

The complete listing shows the band by band breakdown and power levels for those who like to keep track of that element of SOSB even though it is not an official part of the contest format.

MULTI-OPERATOR SINGLE-TRANSMITTER HIGH POWER

Tony Osman, VE3RZ, takes first place in the MOSTHP category. He captures the Alfa Radio sponsored plaque with a score of 106,352. Bob Titterington, G3ORY, takes second place with a score of 51,504. Gerald Boutin, VE1DT, operating in assisted mode takes third place this year with a score of 40,488.

MULTI-OPERATOR SINGLE-TRANSMITTER LOW POWER

Igor Slakva, VE3ZF and his team, utilizing the VA3RAC call takes first place this year with a score of 415,166 capturing the MOSTLP Tony Allsop VE3FTA Memorial plaque. C. Rubenfeld, VE4EA and his team takes second place this year with a score of 373,230; and Monkey Lovers Radio Consortium, K6MMM, takes third place with a score of 257,754.

MULTI-OPERATOR MULTI-TRANSMITTER

The ORCA DX and Contest Club using the VE7RAC call takes first place this year in the MOMT category, taking the plaque sponsored by Radioworld with a score of 537,240. Contest group du Quebec using the VA2RAC call takes second place with a score of 406,200. Our third place finish goes to the Hamilton Amateur Radio Club Contest Group, VE3DC, with a score of 337,008.

RAC CANADA DAY CONTEST RECORDS (updated with 2014 results)

CANADIAN RECORD SCORES

Call	Category	QSOs	Mult	Score	Year
VE3EJ	SOABHP	1513	118	1,243,956	2008
VE5SF	SOABLP	884	95	658,540	1999
VE3KZ	SOABQRP	468	79	309,048	2002
VA7RR	SOSB*	1531	25	233,150	1999
VE6JY	SOABPH	906	55	421,850	2007
VE7JH	SOABCW	1021	46	218,040	2014
VE6AO	MOSTHP	1092	76	526,984	2008
VA3RAC	MOSTLP	944	83	415,166	2014
VE6JY	MOMT*	2671	119	1,898,764	1999

*The official category does not have a power class designator.

CANADIAN SINGLE BAND RECORD SCORES

Call	Category	QSOs	Mult	Score	Year
VVE3VZ	SOSB - 144	66	3	2,046	2005
VE3FIT	SOSB - 50	43	6	2,364	1998
VE1CZ	SOSB - 28	183	9	7,128	1997
VE6JY **	SOSB - 21	957	20	72,800	2001
VA7RR	SOSB - 14	1531	25	233,150	1999
VE3TA	SOSB - 7	612	20	68,800	2009
VE3BY	SOSB - 3.5	447	15	64,800	1997
VE3DO	SOSB - 1.8	82	18	11,412	1996

No new single band records in 2014

** VE6JY: opVE5MX

TOP SCORING SINGLE OPERATOR FOREIGN ENTRY

As noted in the SOABHP results, Tom Nail, WA2BCK, piloted his station to the highest placing single operator from outside Canada with a score of 324,610. This earns him the Larry Kayser, VA3LK Memorial plaque sponsored by Alan Goodacre, VE3HX.

CANADA DAY CONTEST 2015

We look forward to the Canada Day Contest on July 1, a Wednesday this year, and hope to see increased participation this year. Please join us as it is a great way to spend part of the Canada Day holiday! The RAC website has all the contest rules and entry forms at: http://www.rac.ca/en/rac/programmes/contests/

THANK YOU

We appreciate all the Cabrillo formatted logs as it really helps to manage the work to compile the contest results.

A FEW STATISTICS

Logs submitted	**399**
Canada	**181**
US	**110**
Other countries	**96**
Total QSOs	**57,181**

However, we encourage you all to check to make sure all the pertinent information is correct in the Cabrillo headers. Not all of you are getting the correct entry classes entered in the header due to limitations in your software.

Please make sure you are using the most current version available. We will continue to accept paper logs for small entries (less than 100 contacts), but we ask that you please include a summary sheet providing the required information and, where possible, a breakdown of VE, RAC and DX contacts as well as the multiplier total. As a reminder, when submitting email entries, please make the subject line meaningful. Our preference is Call – Category – RAC Canada Day. For example: VE5CPU – SOABHP – RAC Canada Day.

The RAC Contest Management team continues to get the results out as quickly as possible with as much accuracy as we can. In the event we have let any errors in, please accept our apologies and be assured we will be happy to correct any problems that are identified and publish any updates on the RAC website.

To those who participated in 2014, Thanks! We hope you enjoyed the event! Good luck in the 2015 RAC contests.

RAC CANADA DAY CONTEST 2014 MULTI OP LIST AND CHECK LOGS

Call Sign	Operators
ES8DH	ES8DH
IT9RZU	IT9RZU
JS1IFK	JS1IFK
K3MD	K3MD
K4IU	K4IU
K6MMM	KE1B
KG4V	KG4V
KG4W	KG4W
KV4MO	KV4MO
N2SO	N2SO
N2SQW	N2SQW
N7QMT	N7QMT
NQ9A	NQ9A
RZ9U	RZ9U
S59T	S59T
SP9FKQ	SP9FKQ
UA0ZC	UA0ZC
VA2RAC	VA2RC, VA2MCJ, VE2FU, VE2EBK, VE2GEJ & VE2SG
VA3GKO	VA3GKO
VA3PAW	VA3PAW
VA3TIC	VA3TIC
VA3ZLT	VA3ZLT
VA7FC	VA7FC
VE1DT	VE1DT
VE2YA	VE2YA
VE3PYG	VE3PYG
VE3XAT	VE3XAT
VE6AX	VE6AX
VE6CMV	VE6CMV
VE6RAC	VE6AQ, VE6EC, VE6STE, VE6OH, VE6AMT, VA6AWS, VE6HEP, VE6UC, VE6MIC, VE6JY & VE6KD
VE7BFC	VE7HTN, VE7SDI & VE7WNK
VE9OA	VE9OA
W8BI	KB8UEY & W8LGM
WA3AAN	WA3AAN
G3ORY	G3ORY
PY2NZ	PY2NZ
VE3JM	VE3JM
VE5LBL	VE5JZX & VE5ZX
VA6AK	VA6AK
9A1AA	9A1AA
KC2WUF	KC2WUF
N3QE	N3QE
NK6A	NK6A
VE4EA	VE4EA, K3KU, VE4SNA & K7MKL
VE7RAC	VA7NF, VA7NLF, VE7ACN, VE7BC, VE7IO & VE7TI
YO3GNF	YO3GNF
YO3ND	YO3ND
DK2AB	DK2AB
VE3MIS	VE3IMG, VE3VE & VE3CWU
VE3RCMP	VE3LC & VE3XEM
VA3TS	VA3TS
VE5RI	VE5RI
KE6DM	KE6DM
VA5LF	VA5LF
VE7URN	VE7URN
VE3DC	VE3DC
KA1WPM	KA1WPM
VE5RAC	VE5KS, VE5TRF, VE5TRG, VE5TRH, VE5BBB, VE5ERN, VE5CBY & VE5MML
VA5TSA	VA5TSA
HA5AQ	HA5AQ
K8GT	K8GT
VE3TWG	VE3TWG
VA3RAC	VE3ZF, VE3KAO & VE3HZQ
VE3RZ	VE3RZ
VA3SK	VA3MW & VA3SK
VE6AO	VE6CCL & VE6KC

Check logs
VE2PIJ, VE3JSO, UX2IB, G3VDB, UA6CEY, EA5XY, UA9JLL, EA2WD & KO8SCA

Note: In the following results ** indicates a Category winner and an * indicates a Certificate winner

SINGLE OP ALL BANDS CW ONLY (SOABCW)

Call	Score	CDN	RAC	DX	QSOs	Mult	
WA2BCK	324,610	364	30	377	771	65	**, #
VE3BZ	311,100	318	35	610	963	61	*
K4BAI	116,928	171	17	193	381	48	
W1PR	103,372	191	16	87	294	43	*
W9WLX	79,344	157	21	49	227	38	*
N3RJ	76,516	156	20	54	230	37	*
W1WMU	75,956	172	10	157	339	34	*
VE5CPU	60,552	117	18	76	211	36	*
DK3DG	58,712	105	19	1	125	41	*
WA8KAN	53,048	96	17	48	161	38	*
W0VX	50,400	97	19	45	161	35	*
VO2RAC	48,832	233	10	261	504	16	*
VO1UL	47,492	119	16	11	146	31	
VY2SS	43,420	103	11	210	324	26	*
VE3TW	29,986	62	16	47	125	29	
VO1RAC	22,800	73	5	155	233	20	
NA4C	14,910	49	7	40	96	21	
K5WP	11,044	34	8	1	43	22	
K5YAA	5,728	25	4	14	43	16	
US3LX	14	1	0	2	3	1	*
N4PN	464,100	492	34	515	1041	70	
NE8J	4,320	23	5	15	43	12	

(#) Top Scoring Single Operators Foreign Entry - any authorized power
Larry Kayser, VA3LK Memorial Plaque sponsored by Alan Goodacre VE3HX

SINGLE OP ALL BANDS LOW POWER (SOABLP)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VE4VT	372,324	369	32	457	858	71	**
K9OM	232,812	302	28	217	547	58	*
VE4RAC	193,492	240	25	136	401	61	
WN6K	137,896	257	12	162	431	44	*
VE3EJ	134,064	181	19	273	473	49	*
VE4GV	127,428	229	16	249	494	41	
VE7CV	94,944	138	26	39	203	48	*
VA6RF	83,664	183	14	107	304	36	*
VE2AWR	77,112	118	19	138	275	42	*
VE3JI	65,520	116	13	109	238	40	
VE5LM	62,016	131	14	117	262	34	*
K5DHY	61,864	111	22	39	172	38	*
VE3CES	58,140	89	14	61	164	45	
N0UV	57,202	113	19	18	150	37	*
VE6NR	53,640	138	11	94	243	30	
VE3CV	53,200	92	14	65	171	40	
VE7NA	53,120	94	12	74	180	40	
VE7KW	51,450	100	15	85	200	35	
NF8J	47,880	140	10	55	205	28	*
WA2JQK	46,830	98	15	29	142	35	*
N6HC	36,018	103	10	52	165	27	
KB3LIX	24,360	58	9	26	93	30	*
NW0M	22,800	64	10	36	110	25	
KS4X	22,678	50	14	1	65	29	*
VE3DZ	22,650	59	6	98	163	25	
VE5DLM	22,260	73	12	45	130	21	
VE1ZA	22,050	57	8	76	141	25	*
W2LE	17,136	50	7	37	94	24	
VE3XLG	17,020	48	11	20	79	23	
VE3JDF	17,000	36	14	20	70	25	
VE5CON	16,000	55	11	15	81	20	
VE3RCN	15,744	42	8	38	88	24	
VE6ZC	15,312	48	8	28	84	22	
W9TC	13,992	45	7	23	75	22	
VE3PQ	13,692	37	12	21	70	21	
VE4SN	13,328	60	7	22	89	17	
VE1LS	12,400	41	9	15	65	20	
VA3IK	10,542	33	6	26	65	21	
VE9LMN	10,110	49	8	12	69	15	*
VE5WD	9,720	42	10	14	66	15	
VE3DMR	9,240	27	9	6	42	20	
VE2JCW	9,120	35	5	60	100	16	
NF8M	8,862	22	9	11	42	21	
N9WKW	8,094	32	5	3	40	19	
VE5BCS	5,712	29	4	19	52	14	
VA7JC	4,950	16	7	15	38	15	
WR9Y	3,510	21	3	0	24	13	
VY2RB	3,430	33	5	30	75	7	*
K9BTQ	2,880	17	3	5	25	12	
EI7CC	1,650	13	1	0	14	11	*
K6CSL	1,264	8	3	9	20	8	
DJ6TK	980	10	2	0	12	7	*
OH1BOI	264	3	1	8	12	4	*

SINGLE OP ALL BANDS QRP (SOABQRP)

Call	Score	CDN	RAC	DX	QSOs	Mult	
K3TW	56,280	88	17	60	165	42	**
VA3WR	47,360	72	21	70	163	37	*
VA3QV	27,000	59	14	15	88	30	
VA3RKM	24,908	66	9	59	134	26	
VE3/VE6BIR	20,720	44	10	50	104	28	
VE7BQO	12,320	32	9	30	71	22	*
K3HX	8,256	33	6	33	88	16	*
N4CYV	1,260	10	2	0	12	9	*
VE3CBK	456	5	1	3	15	6	

SINGLE OP ALL BANDS SSB ONLY (SOABPH)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VE7GTC	141,208	296	16	218	530	38	**
VE7XT	121,830	264	16	485	765	31	
VE7SO	113,900	261	15	220	496	34	
VA6UK	108,934	270	14	267	551	31	*
VE7WJ	100,398	296	12	131	439	29	
VE3NLS	72,630	190	19	205	414	27	*
VE8AU	38,594	118	13	119	250	23	*
VA3MTT	31,212	126	11	127	264	18	
VE2CJR	30,168	114	11	158	283	18	*
VE9RAC	27,252	112	12	77	201	18	*
W9QL	24,400	91	13	25	129	20	*
VE7TJF	21,672	92	12	22	126	18	
VA3TPS	20,360	69	12	44	125	20	
VA3ATW	19,296	69	15	41	125	18	
VA7AQD	18,810	72	10	35	117	19	
EA5HRV	18,164	60	14	38	112	19	*
VA7JW	17,856	125	7	49	181	12	
VE7CKZ	17,430	57	12	10	79	21	
VE6GEL	16,036	60	10	22	92	19	
VE6SPS	15,696	64	9	26	99	18	
VA3XH	15,444	63	10	14	87	18	
VE3WBT	15,300	64	7	60	131	17	
VA3GD	14,944	67	10	32	109	16	
VE7FCO	13,408	56	12	19	87	16	
VY0RAC	13,392	27	5	373	405	12	*
NT2I	13,300	69	10	30	109	14	*
K7MJF	13,090	49	14	0	63	17	*
VA3KVI	11,520	44	8	20	72	18	
VE2ER	11,066	67	8	88	163	11	
VE3SPF	10,676	43	9	9	78	17	
VE9LMN	10,110	49	8	12	69	15	
VA3RNJ	9,800	48	9	20	77	14	
VE5JJA	9,030	39	9	16	64	15	*
K7XE	9,000	40	10	0	50	15	*
VE3IQZ	8,848	44	8	16	68	14	
VE5/VE6VS	7,812	32	11	9	52	14	
OH6ECM	7,520	26	9	15	50	16	*
VE3XRC	7,080	49	4	10	63	12	
VE2PDT	6,162	27	8	22	57	13	
VE3FTM	6,136	29	9	1	39	13	
VE3NQM	6,020	29	7	0	36	14	
WB0IWG	5,918	37	7	14	58	11	*
VE6FT	5,346	34	6	13	64	11	
VE3MEW	4,836	20	6	26	52	13	
VE3NB	4,796	29	7	3	39	11	
VE7GPK	4,422	23	8	6	37	11	
VE9REB	3,696	20	5	4	29	12	
KF7PBM	3,330	23	7	0	30	9	
WB8FVB	2,976	23	7	1	31	8	*
UX7UU	2,664	21	3	13	37	9	*
VA3TPV	2,480	15	7	10	32	8	
VE4HUM	2,032	19	3	2	24	8	*
VE3KJQ	1,872	12	5	7	24	8	
AJ0CM	1,760	14	4	0	18	8	
VE2YTQ	1,744	14	3	9	26	8	
VE2POU	1,692	8	5	4	17	9	
KR9E	1,350	7	4	0	11	9	
N6ENO	1,330	13	3	0	16	7	
VE3GNI	1,302	10	4	3	17	7	
KJ4LTA	1,280	12	2	0	14	8	*
VA2EN	1,148	12	2	2	16	7	
K3FS	1,120	8	3	0	11	8	*
SP6DVP	1,092	13	2	6	21	6	*
W1CRK	770	7	2	0	9	7	*
VE2ICU	710	10	2	1	13	5	
AB5XZ	560	5	3	1	9	5	
CT7AIX	392	7	1	4	12	4	*
AB4UG	350	3	2	0	5	5	

SINGLE OP ALL BANDS CW ONLY (SOABCW)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VE7JH	218,040	281	25	715	1021	46	**
VA2WA	160,380	206	19	562	787	45	*
K4LTA	110,408	224	16	212	452	37	*
VE1RGB	87,040	175	14	265	454	34	*
VE3KI	81,464	155	12	303	470	34	*
VA7KO	72,798	143	15	238	396	33	
VA7ST	71,040	148	11	334	493	30	
VE5MX	69,426	150	11	337	498	29	*
VE3CX	68,640	161	10	239	410	30	
N6MU	41,700	98	13	75	186	30	*
K5XR	40,800	121	8	165	294	24	*
W1UJ	38,570	94	9	105	208	29	*
NW2K	36,336	98	13	137	248	24	*
VE3NRG	32,984	74	9	72	155	31	
W4YE	32,150	90	11	83	184	25	
VE9AA	32,100	82	7	162	251	25	*
VA3ATT	26,910	74	9	125	208	23	
VE1NB	24,080	76	6	162	244	20	
K1BV	23,936	73	8	99	180	22	
W2GN	23,814	78	10	77	165	21	
AA4DD	23,244	70	7	27	104	26	
W1QK	22,760	80	10	69	159	20	
N4VV	21,168	61	6	27	94	27	
N5AW	20,056	65	5	61	131	23	
VE6LB	19,456	69	5	117	191	19	*
VE3FH	18,864	53	7	58	118	24	
K0HB	18,696	71	10	37	118	19	*
K2MK	17,520	55	9	0	64	24	
VE3ZY	16,212	50	8	56	114	21	
K4DJ	15,732	56	10	34	100	19	
PA0VAJ	14,382	57	5	88	150	17	*
W1END	13,860	53	8	40	101	18	
YT7IM	13,056	54	6	54	114	17	*
K4FPF	12,520	46	6	23	75	20	
SN5N	12,480	46	6	100	152	16	*
K1IMI	12,456	48	6	46	100	18	
VE3VIG	12,288	54	6	54	114	16	
SM5CSS	12,276	43	7	56	106	18	*
VA3FN	11,356	42	7	54	103	17	
VE3XT	11,328	46	9	34	89	16	
EA5YU	10,234	34	6	71	111	17	*
SI5Y	10,020	39	7	69	115	15	
VA1MM	8,840	40	4	100	144	13	
WK4AA	8,520	39	6	29	74	15	
K6AAB	8,388	34	4	23	61	18	
VE3FJ	7,710	32	5	47	84	15	
VE2EZD	7,670	43	4	40	87	13	
VO1HP	7,616	36	4	52	92	14	*
SM5ALJ	7,588	36	3	61	100	14	
K4ORD	7,290	32	6	23	61	15	
KI0I	6,560	29	5	10	44	16	
KN4Y	6,468	32	7	1	40	14	
W2CDO	6,400	26	7	0	33	16	*
JH8DBJ	6,060	25	7	7	39	15	*
VE3DTI	6,032	37	2	27	66	13	
N1NN	5,936	28	4	32	64	14	
UA3MIF	5,616	31	5	29	65	12	*
K6DGW	4,508	24	3	11	38	14	
W7GB	4,350	21	4	0	25	15	*
K6KQV	4,224	19	6	21	46	12	
LI2HFA	3,480	18	4	44	66	10	*
SP7P	2,904	13	2	36	51	12	
AM05IIK	2,580	17	2	24	43	10	
K2HT	2,530	23	0	0	23	11	
K9GY	2,500	17	3	10	30	10	*
EW1FM	2,376	19	2	17	38	9	*
G3GLL	2,354	15	2	12	29	11	*
PA3DBS	2,208	16	2	38	56	8	
RN4SC	2,096	17	0	46	63	8	
VE3VCF	1,940	15	1	12	28	10	
K8FZY	1,840	18	2	5	25	8	*
SE4E	1,392	10	1	27	38	8	
VY1RAC	1,308	14	2	19	35	6	*
G3WRR	1,120	12	1	0	13	8	
G3RSD	944	9	1	4	14	8	
RW3AI	860	8	1	36	45	5	
DL5JQ	804	9	0	22	31	6	*
PA5GU	792	7	1	21	29	6	
ON3ND	464	5	1	23	29	4	*
G3ZRJ	400	4	2	0	6	5	
JA1SKE	368	3	3	1	7	4	
WS7L	320	6	1	0	7	4	
RA9DZ	240	3	1	5	9	4	*
RI1ANT	240	4	2	0	6	3	
PA0JHS	80	0	2	0	2	2	
PC5F	8	0	0	4	4	1	

SINGLE OP SINGLE BAND (SOSB)

Call	Score	CDN	RAC	DX	QSOs	Mults	Band	Pwr	
VE8RAC	121,946	404	23	511	927	23	20M	HP	**
UA1AFT	50,324	156	23	144	317	23	20M	LP	
VA7AM	23,980	173	11	145	326	11	20M	LP	

Band by band breakdown

Call	Score	CDN	RAC	DX	QSOs	Mults	Band	Pwr	
VE2PIJ	168	2	2	32	34	2	6M	HP	*
VA3KUG	58	3	1	14	17	1	6M	LP	*
N4MM	52	5	1	1	7	1	6M	Any	*
VE3HX	12	1	1	1	2	1	6M	LP	
S51DX	3,674	18	11	27	50	11	15M	HP	*
JO7KMB	342	7	3	12	20	3	15M	LP	*
UT3EK	34	0	1	17	17	1	15M	QRP	*
VE8RAC	121,946	404	23	511	927	23	20M	HP	**
UA1AFT	50,324	156	23	144	317	23	20M	LP	*
VA7AM	23,980	173	11	145	326	11	20M	LP	*
EW1BA	12,464	46	19	28	81	19	20M	HP	*
OH4MDY	10,934	62	11	147	213	11	20M	HP	*
K6GHA	9,558	85	9	16	110	9	20M	LP	*
VE1AYY	8,298	62	9	91	168	9	20M	Any	*
VA3GUY	7,326	34	11	113	152	11	20M	LP	*
UA3LAR	6,984	35	7	46	88	12	20M	LP	
VA2LPQ	6,372	57	9	29	90	9	20M	LP	*
VE1SQ	5,392	49	8	22	78	8	20M	LP	
VE3LJQ	5,240	34	10	22	63	10	20M	LP	
HA5OV	5,148	35	9	61	101	9	20M	LP	*
OK2SG	4,602	25	13	22	50	13	20M	LP	*
JA7DOT	4,200	18	15	0	23	15	20M	HP	*
VE4DPR	4,032	37	8	7	50	8	20M	LP	*
KB7AZ	3,870	33	9	0	38	9	20M	HP	*
VE3IGJ	3,674	19	11	12	37	11	20M	LP	
VE7NI	3,406	17	13	16	36	13	20M	QRP	
VE1FZ	3,402	27	9	14	45	9	20M	LP	
OK2QX	3,006	18	9	47	68	9	20M	LP	
K7AMS	2,992	27	8	32	61	8	20M	LP	
WB3CII	2,988	18	9	6	31	9	20M	LP	*
VE6UX	2,880	17	8	35	58	8	20M	LP	*
VE7QC	2,544	18	8	9	33	8	20M	LP	
VE8IR	2,178	14	9	11	29	9	20M	QRP	
VE2EVN	2,100	20	7	10	34	7	20M	LP	
DF6RI	2,000	14	8	25	42	8	20M	LP	*
VY2LI	1,974	21	7	36	57	7	20M	LP	*
WN4AFP	1,728	22	6	14	38	6	20M	LP	*
EA1AA	1,666	17	7	4	24	7	20M	LP	*
PD5T	1,632	13	8	17	32	8	20M	LP	*
UN5C	1,456	12	7	34	47	7	20M	LP	*
VE3MCF	1,414	13	7	6	22	7	20M	LP	
VE3VHB	1,386	7	7	14	26	7	20M	LP	
VE4UR	1,344	18	6	2	28	6	20M	Any	
VE9BEL	1,260	15	7	5	21	7	20M	QRP	*
VE3EY	1,020	11	5	37	49	5	20M	HP	
VE7GAP	1,000	12	5	10	30	5	20M	Any	
F4FTA	960	12	6	0	14	6	20M	LP	*
EW8OF	876	7	6	28	36	6	20M	LP	
KI1U	792	9	6	11	21	6	20M	LP	*
KD6WKY/R	768	8	6	4	14	6	20M	LP	
SP1RKH	700	10	5	10	21	5	20M	LP	*
JH1OES	680	7	5	3	13	5	20M	LP	
K7KFB	590	5	5	4	12	5	20M	LP	
VE3CYK	568	10	4	1	17	4	20M	Any	
RT9X	470	5	5	12	18	5	20M	LP	*
VE3NJE	460	3	5	1	7	5	20M	LP	
DL1AZK	350	3	5	0	5	5	20M	LP	
VE6SKY	336	7	3	1	10	3	20M	QRP	
VE3NLE	324	6	3	4	12	3	20M	LP	
VA7ARI	216	7	3	1	8	3	20M	LP	
JA1MZM	210	4	3	5	10	3	20M	LP	
SP3AZO	168	4	3	8	12	3	20M	LP	
OH1TD	162	3	3	2	6	3	20M	HP	
KC0UDT	80	2	2	0	3	2	20M	LP	*
OZ1JB	76	2	2	9	11	2	20M	QRP	*
VE3TAZ	56	0	1	8	10	1	20M	LP	
EW6GF	30	0	1	15	15	1	20M	LP	
G3SQU	26	2	1	3	5	1	20M	LP	*
VE7IHL	20	1	1	5	6	1	20M	LP	
DL1HL	20	0	1	0	1	1	20M	QRP	
DL9HB	10	1	1	0	1	1	20M	LP	
JA5NSR	10	0	1	5	5	1	20M	HP	
HA7JQK	2	0	1	1	1	1	20M	LP	
VE3IAE	16,830	84	15	81	171	15	40M	LP	*
N6RO	16,800	89	14	45	145	14	40M	HP	*
VE3VV	7,296	64	8	96	164	8	40M	HP	
VA3AR	4,624	43	8	54	99	8	40M	HP	
VE3PYJ	2,076	25	6	8	37	6	40M	LP	

VA3NGE	364	14	2	21	35	2	40M	LP	
JA2HNP	50	3	1	0	4	1	40M	LP	*
DB1WT	2	0	1	1	1	1	40M	LP	*
VE3OSZ	2,100	30	5	30	63	5	80M	LP	*
VE9RLW	900	7	6	0	11	6	80M	LP	*
OM4J	624	6	6	12	19	6	80M	LP	*

MULTI OPERATOR SINGLE TRANSMITTER HIGH POWER (MOSTHP)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VE3RZ	106,352	149	22	191	362	46	**
G3ORY	51,504	104	17	6	127	37	*
VE1DT	40,488	130	9	224	363	21	*
VA3TS	31,004	96	14	54	164	23	
DL8UI	26,460	56	15	11	112	30	*
SP9FKQ	25,536	52	12	76	140	28	*
WA3AAN	12,352	52	9	36	97	16	*
VE7BFC	10,582	55	10	32	97	13	*
N2SQW	10,560	42	12	0	54	16	*
W8BI	10,340	35	6	0	41	22	*
N3QE	9,416	32	5	4	41	22	
NK6A	5,664	30	7	16	53	12	*
RZ9U	830	4	6	3	13	5	*
YO3GNF	520	6	0	22	28	5	*
S59T	440	1	3	20	24	4	*

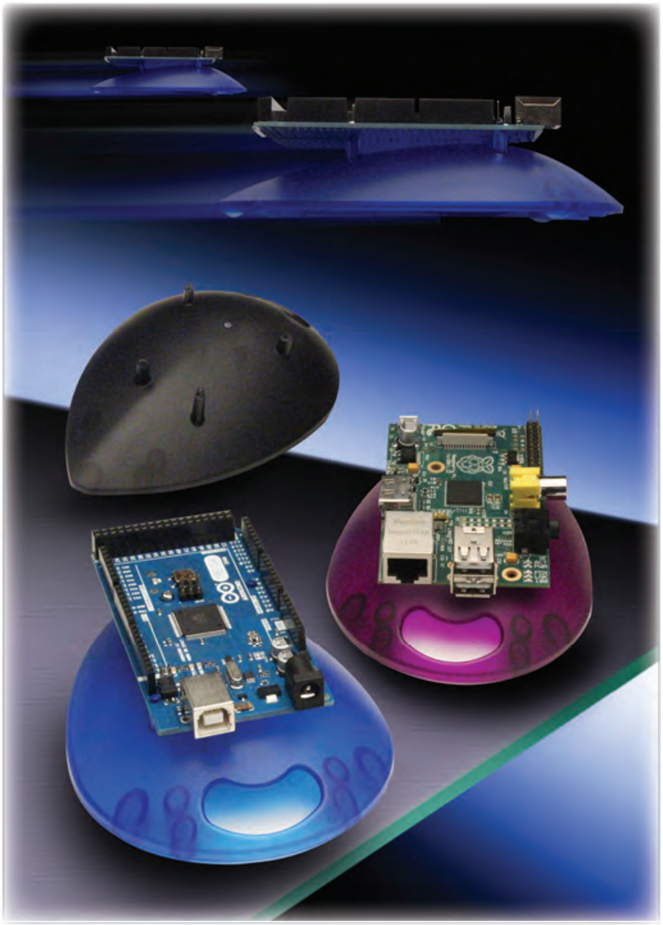
MULTI OPERATOR SINGLE TRANSMITTER LOW POWER (MOSTLP)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VA3RAC	415,166	333	25	586	944	83	**
VE4EA	373,230	392	43	481	916	65	*
K6MMM	257,754	340	28	281	649	57	*
VE3MIS	163,130	197	26	238	461	55	
VE5LBL	102,372	182	16	277	475	38	*
VA3GKO	79,560	186	13	266	465	30	
VE9OA	71,940	143	17	205	365	33	*
VA7FC	54,320	145	14	105	264	28	*
KG4W	49,740	122	13	89	224	30	*
VE3TWG	48,048	120	17	88	225	28	
VE3PYG	39,424	86	15	36	137	32	
K8GT	38,850	77	13	40	130	35	*
VA3TIC	30,818	135	9	46	190	19	
VE3JM	22,128	56	11	71	138	24	
YO3ND	17,010	50	9	65	124	21	*
VE7URN	16,096	77	10	18	105	16	
VE6CMV	11,908	66	6	68	140	13	*
9A1AA	11,500	38	4	20	62	23	*
K3MD	11,214	31	9	22	62	21	*
N2SO	10,506	44	6	29	79	17	*
IT9RZU	9,750	35	8	70	113	15	*
VA3ZLT	9,594	37	10	84	131	13	
VA6AK	7,502	47	9	16	72	11	
VE3XAT	6,834	22	7	21	50	17	
ES8DH	6,578	41	5	44	90	11	*
KG4V	6,480	26	6	26	58	15	*
VA3ATB	4,246	23	7	8	38	11	
N7QMT	4,224	28	5	2	35	11	*
VE2YA	4,000	30	4	10	44	10	*
KA1WPM	3,102	18	5	1	24	11	
VE6AX	2,840	16	5	12	33	10	
DK2AB	2,280	18	2	4	24	10	*
NQ9A	2,220	12	5	1	18	10	*
VA3PAW	2,124	14	3	18	35	9	
PY2NZ	1,974	17	5	6	28	7	*
K4IU	1,568	17	0	13	30	8	*
VA5LF	1,552	9	2	32	43	8	
HA5AQ	1,300	7	3	0	10	10	*
UA0ZC	636	2	4	3	9	6	*
KE6DM	612	6	2	1	9	6	
KV4MO	450	3	3	0	6	5	
KC2WUF	360	6	3	0	9	3	
JS1IFK	20	0	1	0	1	1	*

MULTI OPERATOR MULTIPLE TRANSMITTER (MOMT)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VE7RAC	537,240	576	30	890	1496	66	**
VA2RAC	406,200	497	24	660	1181	60	*
VE3DC	337,008	443	22	869	1334	51	*
VE5RI	306,346	427	25	874	1326	47	*
VE6RAC	298,400	592	16	610	1218	40	*
VE6AO	83,448	154	14	249	417	36	
VE5RAC	81,780	182	15	303	500	30	
VE3RCMP	37,140	85	10	94	189	30	
VA3SK	24,096	71	9	57	137	24	

Hammond Manufacturing Launches EGGciting New Bareboard Computer Enclosure Platform



Hammond Manufacturing has announced its new 1593HAMEGG enclosures, board-specific designs for the Arduino and Raspberry Pi bareboard computers.

Available in translucent blue, translucent purple or translucent black, they have been designed in response to user feedback, providing an alternative to traditional base and lid designs where the bareboard is mounted inside an enclosure.

In the innovative HAMEGG design, the board is screwed into molded studs located on the top of an egg-shaped base, giving EGGcellent stability and all-round unrestricted access to I/O connectors, often used controls, indicators and expansion boards; it also allows easy installation of EMC shields if required.

Initially, the new platforms are configured for the Raspberry Pi A, A+, B and B+ and the Arduino Uno, Due, Ethernet, Leonardo, Mega ADK, Mega 2560 and Yún.

Board-specific versions for designs from other manufacturers active in this fast moving sector are in development and will be available in the near future.

Visit http://www.hammondmfg.com/1593HAMEGG.htm for more information.

PUBLIC SERVICE / ARES

AN UPDATE ON THE SURREY EMERGENCY PROGRAM AMATEUR RADIO SOCIETY'S YOUTH ACTIVITIES

Submitted by Marcy Lui, VE7JT

Communications are a critical service in an emergency. Experience has shown when communications systems fail, and they often do, assistance efforts are hampered and loss of life and injuries increase. Amateur Radio has a long history of providing auxiliary communications services to support emergency and social services.

SEPARS stands for Surrey Emergency Program Amateur Radio Society, an acronym of the City of Surrey's Amateur Radio program. SEPAR is somewhat unique in that it is not an Amateur Radio club but a community service organization that includes both licensed Amateur Radio operators and other communications volunteers involved in the city emergency program.

SEPAR was involved in two community Amateur Radio youth activities in 2014:

"Doors Open": on June 21 in partnership with the City Centre Library, Surrey-wide participation

"CN Family Day Event": on September 7; a closed event for CN

DOORS OPEN

Doors Open is a Surrey-wide "be a tourist in your own city" event. Participants can explore parks, places of worship, art exhibits, universities, and recreation centres, historic and architectural sites and participate in a number of events held on-site.

Surrey Libraries invited SEPAR to present an interactive Amateur Radio workshop for Doors Open at the City Centre Library. The location for our workshop was the outdoor east plaza area, currently under construction, between the City Centre Library and the newly built Surrey City Hall. The plaza surface area was completed just prior to the event. The load in was a challenge as we were apprised of new load in restrictions on arrival. Working with City Centre Library and City of Surrey liaisons, we successfully accommodated all needs and adapted for onsite placement. Due to ongoing construction electrical power was not available to us. All SEPAR radios were run on auxiliary power demonstrating to the public how we would set up in a real emergency.

From left, clockwise at Doors Open: Dixie, VA7DIX, Scout parent, Scout leader, Brent using mic, Hansell, TAG volunteer

The SEPAR Emergency Communications Trailer invited the public to speak to D-STAR stations, send an RMS digital message, and learn about BCWARN (British Columbia Wireless Amateur Radio Network) and Amateur Radio emergency communications.

Two display tables were placed adjacent to the emergency communications trailer promoting SEPAR, the Surrey Emergency Program and the Surrey Amateur Radio Club.

Display table items:

- Field Day advertisement inviting the public to attend
- SEP emergency preparedness booklets and children's activity sheets
- SEPAR stickers and promotional video
- SEPAR and SARC brochures

Surrey Libraries TAG volunteer, Jordon, Jiang and female Scout leader at Doors Open event.

SEPAR offered a simulated emergency communications activity for youth using Handi-Talkies (HTs). Groups were split into "Distress" and "Response" teams. Team participants alternated reading prepared cue cards enacting an emergency rescue scenario.

City Centre Library Teenage Advisory Group (TAG) volunteers assisted with the workshop and handed out special Surrey Libraries/SEPAR/Doors Open buttons which were made by the City Centre Library to commemorate the event. We thank TAG volunteers Abiramy, Roha, Sarah, Supreeth and Harjaap for their assistance. Special thanks to Dave, VE7CN and Rick, VE7GMO, for loaner tents!

SEPAR promotes the Society for the Preservation of Antique Radio in Canada (SPARC) Museum and, with the approval of the City Centre Library, SPARC set up a display inside the library for the Doors Open event. For more information about Doors Open visit: http://www.surrey.ca/culture-recreation/11056.aspx

CN FAMILY DAY EVENT

SEPAR introduced a Morse Code scavenger hunt to the 2014 CN Family Day Event. Youth participants at the event were invited to decode the Morse Code clue on display at the SEPAR booth which then directed participants to the next clue card locations. The last Morse Code clue led back to our booth where participants completed their Morse Code Communications Mission using Morse Code oscillators to "sign in". This was a huge success seeing 55 youth rewarded with mini flashlights and candy suckers at activities end. We thank the Surrey Emergency Program (SEP) and the Royal Canadian Mounted Police (RCMP) for hosting a SEPAR Morse Code clue card at their booths!

We invited the public to tour the SEPAR Emergency Communications trailer, try out various communication modes and learn about Amateur Radio emergency communications.

WPGARES RECEIVES COMMENDATION FOR SUPPORT OF 17 WING RCAF RUN

Submitted by Jeff Dovyak, VE4MBQ
Emergency Coordinator, Winnipeg ARES

Winnipeg Amateur Radio Emergency Service (WPGARES) has been supporting the 17 Wing Royal Canadian Air Force (RCAF) Run with volunteer Amateur Radio communications for four years. For all but the first year, Craig, VE4CDM, has coordinated the event for Winnipeg ARES (our Emergency Coordinator organized the first year's involvement). In 2014, 18 ARES members and affiliates volunteered.

The above photo shows Craig Martin, VE4CDM, accepting the Wing Commander's Commendation on behalf of Winnipeg ARES from 17 Wing Commander Colonel J.J. Roy (on the left) and 17 Wing Chief Warrant Officer A.M. Robertson. The photo is courtesy of 17 Wing CWO Office Assistant SGT Mike Kuruliak.

The certificate states in part that: "Winnipeg ARES is awarded the Wing Commander's Commendation in recognition of their contribution to the success of the 6th Annual RCAF Run. In addition to the wide expanse of the Wing, this year's race routes utilized more than 12 km of public trails and streets, presenting an enormous communications challenge. The support provided by Winnipeg ARES was a significant element in communication and emergency planning. In recognition of their collective professionalism and exceptional support provided to the 2014 RCAF Run, Winnipeg ARES is awarded the Wing Commander's Commendation."

AMATEURS IN BATHURST NEW BRUNSWICK SUPPORT THE CIBC RUN FOR THE CURE

Submitted by Francis Pitre, VE9FCP

Despite the heavy downpour Amateur Radio operators in Bathurst, New Brunswick did their part in supporting the 23rd Annual Canadian Breast Cancer Foundation CIBC Run for the Cure on Sunday, October 5. The event is Canada's largest single day, volunteer-led fundraising event dedicated to raising funds for breast cancer research, education and awareness programs. This fall classic, consisting of a 1K walk and a 5K walk or run, raises funds which go directly to the Canadian Breast Cancer Foundation.

Again this year, the local organizing committee is very grateful for the support provided by the Amateur Radio operators who provide communications and ensure the safety of participants at intersections. It was noted that the generous support of volunteers helps to keep costs down, which directs more money to the Canadian Breast Cancer Foundation in order to fund breast cancer research and health promotion initiatives.

The above photo shows the Amateur Radio operators who took part in this year's event in Bathurst: (Front, left) Junior, VE9ZZ, Moe, VE9MOE, Sue, VE9MLR and Francis, VE9FCP; (Back, left) Mitch, VE1MLS, Alain, VE9ACL, Ron, VE9RON and Gilles, VE9GIL.

A display table was set up to include SEP emergency preparedness booklets and children's activity sheets and SEPAR brochures and stickers.

SEPAR community events increases public awareness of Amateur Radio and emergency communications, provides member training, develops working relationships with agencies we may work with in an emergency, and it builds stronger relationships within SEPAR members. The 2014 events established a working relation with Surrey City Hall staff. To meet our customers' needs and to successfully deliver is a great additional skill benefit of the SEPAR Community Events program.

Families participate in SEPAR Morse Code scavenger hunt.

Equipment used at the "Doors Open" event were the SEPAR Emergency Communications trailer, Grab N Go kit, SEPAR member radios and two ICOM IC-U82s donated by ICOM Canada, a supporter of SEPAR Amateur Radio Community Workshops. Equipment used at the "CN Family Day Event" was the SEPAR Emergency Communications trailer.

SEPAR members:

Doors Open: Dixie, VA7DIX, Pam, VE7PFH, Jinty, VA7JMR, Gavin, VA7YEE, Peter, VE7PGX, Stan, VA7NF, Rob, VE7CZV, Kjeld, VE7GP, Al, VE7CDC, John, VE7TI, Drew, VA7DRW, Kapila, VE7KGK, Don, VA7GL, Pat, VA7XE, Alan, VA7BIT, Ron, VE7VTA, and Team Leaders Fred, VE7IO and Marcy, VE7JT.

CN Family Day: Rick, VE7GMO, Stan, VA7NF, Rob, VE7CZV, Bob, VE7FWZ, Kjeld, VE7GP, Al, VE7CDC, Pat, VA7XE, Ron, VA7VTA, Ed, VE7AFC, Fred, VE7IO and Marcy, VE7JT. Assisted by Brian.

THE SPORTS PAGE

— THE CANADIAN CONTEST SCENE

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SPORTS PAGE INFO:

The contest results provided in this column are courtesy of the Maritime Contest Club team:

Gary Bartlett, VE1RGB
Scott Nichols, VE1OP

For more contest information check out these sites:

http://www.hornucopia.com/contestcal/weeklycont.html

http://www.contesting.com

http://www.sk3bg.se/contest/

http://www.arrl.org/contests/calendar.html

http://www.arrl.org/contests/rate-sheet/about.html

http://www.cq-amateur-radio.com/awards.html

http://www.arrl.org/files/file/DXCC/2013%20DXCC%20Current_a.pdf

The “Contest Calendar” at the end of this column is presented as a guide only.

RAC and TCA do not necessarily endorse or support any of the contests or the accuracy of the information.

Bands: The 30, 17 and 12m bands are never used in any contest.

POTPOURRI, FIRST DX

With the rich selection of weekend DX contest activity in March and April, what will your selections be?

Will it be Canada and the USA working the world?

Will it be working the Commonwealth, no USA, no Europe, only our Commonwealth neighbours and many rare countries offshore.

The following weekend the Russians host the world. This will undoubtedly be one of the most heavily attended RDXCs in history! Again, this contest will count in the selection of competitors to WRTC-218 in Germany and the competition will be intense with those outside Russia/Europe working to break through an RF curtain.

March ends with a bang! Nothing quite compares to the WPX SSB contest. Everybody works everybody else in a melee of activity on every band. This one has an incredible multiplier availability that grows every year. I remember the first such contests, then called the “SSB Contest”. I had a paper check sheet with spaces for *all* the possible multipliers!

There are also some major RTTY DX events during these months, from Britain, Spain and Poland. The relatively new Manchester Mineira DX Contest is the major DX contest in April, with a number of regional contests starting to take centre stage.

THEN THE QSO PARTIES...

In our Contest Calendar, there are 15 competitions that could fall under this category. There are many opportunities to visit with old friends.

QSO Parties can be addictive, particularly the ones such as those run by the Florida and Georgia groups. One gets very involved with operators that you work many times on one weekend as they move frantically from one county to another.

Of course, the third most popular Canadian contest, the Ontario QSO Party, is nestled between the GaQP and FlQP weekends.

Don’t forget to get on and look for all those VE3/VA3s that will be available spread across Ontario’s 50 multipliers.

Note to VE3/VA3s: take advantage of the MMDX contest going on at the same time!

HILL OR SHORE

Back in January, Mike, VE9AA, asked all and sundry on the CQ-Contest reflector, which would be best, a high hilltop location or a shore location. There were many comments and it is worth looking through these files. First of all, it would be nice to have a choice here in Ontario, between a hill and an oceanfront QTH. I’ve definitely been a hill person; no salt water near here, but I did enjoy both once.

At VP2KBZ on Monkey Hill on the island of St. Kitts in 1983, however, my location was 1,000 feet above sea level with clear views of the ocean to the north and south – including directions to most of North America and Europe. Using a TA-33, FT101ZD and SB200, I managed just under 5,000 QSOs in the CQWW DX SSB contest and, over the six-month stay on the island, 52,000 total. That was a hard act to follow when returning home, but nevertheless experience at the home QTH has revealed some very interesting things over the 40 years of operation here. With ground altitude of just over 1,000 feet ASL, my path to Europe (NE) slopes down for about 300 feet then drops over the edge of a cliff to about 800 feet. Depending on the exact azimuth, this ground level continues to the Toronto skyline for approximately 40 miles to the NNE and drops further down to 250 feet to the ENE, which is the level of Lake Ontario. Towards the east, the Lake Ontario proximity comes to less than 10 miles, the lake surface comprising most of the visible reflection area.

The events most often noted are the ability to start working Europe earlier than Toronto stations and the ease of working Africa with ease. Out of curiosity I used the TA terrain-modeling program to see if any corroboration would emerge. The results for my 204BA were tabulated at antenna heights of 50 feet and 100 feet, for flat terrain and for my terrain in the direction due east. It became clear that the big advantage was in low angle gain with 2.25 degrees being the peak. At the 50 foot antenna height the difference in radiation at this angle was 11.0 dB and for 100 feet was 11.7 dB. However, there is no free lunch. The radiation at higher angles pays for the low angle advantage. This has been observed in operation when the band is “wide open” and my low angle advantage disappears to Europe but not on the longer paths to Africa and the Indian Ocean. The other point of interest was that the higher antenna was showing some 6 dB gain over the lower antenna, not a surprise.

Hills are good. Even a fresh water lake of sufficient dimensions is good, making for a smooth reflecting surface. These come together in my “Pipeline to Africa”.

73, Bob, VE3KZ

ARRL INTERNATIONAL DX CONTEST – SSB

Call	QSO	Mult	Score	Class	Power
VY2ZM	4,762	491	6,949,614	SOAB	High
VY2TT	3,769	464	5,221,392	SO(A)	High
XL3A (VE3AT, op)	3,086	396	3,648,348	SOAB	High
VE9ML	2,203	393	2,574,936	M/S	Low
VA2EN	1,695	337	1,687,359	M/S	High
VE4VT (VE4EAR, op)	1,462	351	1,530,009	SOAB	High
VO1KVT	1,769	284	1,501,224	SOAB	High
VA2AM	1,381	367	1,483,047	SO(A)	High
VA3SWG	1,339	228	898,776	SOAB	Low
VE3TW	1,027	269	821,526	SOAB	Low
VE3EJ	2,229	122	811,422	SO15	
VE6FI	1,117	225	724,950	M/2	
VE3OI	932	261	721,926	SOAB	High
VO2NS	993	244	713,700	SOAB	High
VE3AD	1,016	220	658,020	SOAB	High
VE8EV	905	217	578,739	SO(A)	High
VE9AA	1,667	111	553,446	SO10	
VA7BEC	750	239	532,014	SOAB	Low
VE3DZ	1,527	114	520,866	SO10	
VE4EA	741	231	505,890	SOAB	Low
VE3XAT	595	273	483,210	SOAB	Low
VE7XT	667	227	452,184	SO(A)	High
VE3HG	611	241	437,415	SOAB	Low
VA7ST	665	220	436,260	SOAB	High
VE9HF	1,131	108	363,852	SO20	
VE5ZX	491	249	359,307	SOAB	Low
VO1DJT	643	172	328,692	SOAB	Low
VE3KKQ	491	204	294,984	SOAB	Low
VA3TIC	555	186	292,950	SOAB	Low
VE3UTT	1,010	90	270,270	SO10	
VE1JBC	596	151	269,082	SOAB	High
VE4GV	400	226	267,132	SOAB	Low
VA6NJK	475	176	249,744	SO(A)	High
VE3RA	363	219	237,177	SO(A)	High
VE1RAR	430	185	234,765	SOAB	Low
VE3VV	390	200	230,400	SO(A)	High
VE3PN	833	91	224,406	SO10	
VE2EBK	715	104	221,208	SO10	
VE1ZD	475	158	217,092	SOAB	Low
VA2WA	608	114	206,568	SOAB	High
VA2ES (VE2AXO, op)	408	170	204,510	SOAB	Low
VE3JAQ	386	176	196,944	SOAB	Low
VE3KTB	340	183	183,366	SOAB	Low
VE9OA	321	173	165,561	SOAB	Low
VE2PDT	397	139	163,881	SOAB	Low
VE3RHE	323	167	158,316	SOAB	Low
VE7SZ	593	86	151,188	SO10	
VE3MGY	313	159	146,439	SOAB	Low
VE6BBP	412	117	144,261	SOAB	High
VE7TK	262	180	140,400	SO(A)	High
VE7AX	331	125	123,375	SOAB	High
VE7SAR	279	140	114,660	M/S	High
VA3DBT	267	144	114,048	SOAB	Low
VA3DX	263	133	104,139	SO(A)	High
VE4YU	280	124	103,788	SOAB	Low
VE3BK	229	142	96,702	SO(A)	High
VE7URN	252	116	87,348	SOAB	Low
VE4AKF	240	116	83,520	SOAB	High
VE3TU	233	120	82,800	SOAB	Low
VA6MA	225	123	82,287	SOAB	Low
VA3IK	235	113	79,326	SOAB	High
VA2IC	242	106	75,366	SOAB	Low
VE6AX	238	106	75,366	SOAB	Low
VE3VSM	200	122	73,200	SOAB	Low
VE7TJF	208	115	71,760	SOAB	Low
VE7NS	204	114	69,426	SOAB	Low
VA3JLF	158	142	66,030	SOAB	Low
VE3FH	290	76	65,892	SOAB	Low
VE3CR	254	86	65,016	SO20	
VE3EP	203	111	61,605	SOAB	Low
VE3FTG	227	83	56,523	SOAB	High
VE7JH	239	75	53,325	SOAB	Low
VA3ZLT	196	91	52,689	SOAB	Low
VE7FCO	192	91	51,870	SOAB	Low
VA3NW	176	96	48,960	SOAB	Low
VE3FU	260	63	48,762	SO40	
VA2QR	151	99	43,659	SOAB	High
VA7IR	210	72	43,200	SOAB	Low
VE3LJQ	219	62	40,176	SO10	
VE7ACN	195	67	38,793	SOAB	Low
VA3FP	222	58	38,628	SO15	High
VE5CON	132	98	37,632	SOAB	Low
VE7XF	151	82	36,654	SO(A)	High
VA7JW	206	60	34,560	SO(A)	High
VE3KI	121	89	32,040	SO(A)	High
VE4DRK	132	83	31,623	SOAB	Low
VE3PQ	122	83	30,378	SOAB	Low
VE6CMV	158	64	30,336	SO10	
VE3MEW	135	73	27,813	SOAB	Low
VE6EC	125	74	26,418	SOAB	Low
VE9WH	117	75	26,100	SOAB	Low
VE3AJ	99	84	24,444	SOAB	Low
VE2PIJ	105	78	23,868	SOAB	Low
VE3RCN	113	68	22,644	SOAB	Low
VE5SF	116	66	22,572	SOAB	Low
VE7BGP	113	65	21,645	SOAB	Low
VE3JSQ	119	61	21,228	SOAB	Low
VO1AX	172	41	20,664	SO40	
VE6AMI	110	58	18,618	SOAB	High
VA7AQD	109	56	18,144	SOAB	Low
VE3HEU	93	63	17,388	SOAB	Low
VE6SPS	98	58	16,878	SOAB	Low
VA3XH	100	46	13,524	SO40	
VE6JY	76	59	13,452	SO(A)	High
VE7RSV	100	45	13,365	SOAB	Low
VE3NQM	85	50	12,300	SOAB	Low
VE6FN	71	53	11,289	SO(A)	High
VE4TV	90	43	11,094	SO15	
VE7VR	90	40	10,680	SOAB	Low
VE2JM	80	38	8,892	SO(A)	High
VY1JA	74	40	8,880	SOAB	High
VE7QC	91	31	8,370	SO10	
VE5GC	62	44	7,788	SOAB	Low
VE2RFI	73	36	7,668	SOAB	Low
VE3DVY	70	38	7,638	SO10	
VA7RP	84	33	7,326	SOAB	Low
VA3MPF	64	37	6,993	SO20	
VA7ZM	72	32	6,912	SOAB	Low
VY2MP	66	35	6,825	SO10	
VE6SQ	49	39	5,616	SOAB	Low
VE6BHO	53	32	5,088	SOAB	Low
VA3RKM	45	37	4,995	SOAB	QRP
VE6TR	35	34	3,570	SO(A)	High
VE1OP	35	33	3,465	SOAB	Low
VE7CLX	43	27	3,402	SOAB	Low
VE2MRN	32	32	3,072	SOAB	Low
VA3EJN	34	31	2,604	SOAB	Low
VA6SP	32	20	1,860	SOAB	Low
VA7HZ	25	24	1,800	SOAB	Low
VE6STP	29	19	1,653	SOAB	QRP
VA3EC	27	19	1,539	SOAB	High
VE2HKW	23	21	1,386	SOAB	Low
VE3HED	21	21	1,323	SOAB	High
VE2SG	22	19	1,026	SO(A)	High
VE7VAW	29	9	783	SOAB	Low
VE2OBE	20	13	780	SOAB	Low
VA7AM	15	14	588	SOAB	Low
VA3FN	11	10	330	SOAB	Low
VA7KH	7	6	108	SOAB	QRP
VE3IGJ	6	6	108	SOAB	Low
VA2SCJ	1	1	3	SOAB	Low
VE3KJQ	1	1	3	SOAB	QRP

SP DX RTTY

Call	QSO	Mult	Score	Category
VE2SG	446	111	2,365,965	SOAB HP
VE2EBK	328	123	1,744,140	SOAB HP
VA3XH	281	112	1,514,688	SOAB HP
VE3FH	217	115	1,246,140	SOAB LP
VA7ST	216	62	678,900	SOAB HP
VA2UP	179	79	588,550	SOAB HP
VE2FK	144	59	252,225	SOAB HP
VE2NMB	102	52	156,000	SOAB HP
VE3FK	68	51	114,036	SOAB LP
VE3AJ	37	20	21,120	SOAB LP
VE2KOT	35	27	17,820	SOAB LP
VE2CQF	22	11	3,212	SOAB HP

ONTARIO QSO PARTY

Call	QSO	Mult	Score	Category
VE3ZF	1,638	365	785,480	M2
VA3CCO	1,188	306	505,818	MM
VE3DC	794	187	192,236	MM
VE3TA	467	211	182,093	SOHP Mixed
VE3OSZ	293	153	98,226	SOLP CW
VE3CX	292	135	83,160	SOLP CW
VE3FU	269	143	77,220	SOHP Mixed
VE3SWA	249	139	75,616	MM
VE3XB	222	141	71,628	SOLP CW
VE3KZ	271	140	70,980	SOLP Mixed
VE3AGC/R	195	145	63,580	ROVER
VA3ATT	225	119	61,166	SOLP CW
VE3DZ	221	124	58,776	SOHP CW
VE3GFN	202	118	53,336	SOLP CW
VE3IAE	215	89	39,160	SOLP Mixed
VA3RAC	175	83	28,718	SOLP Mixed
VE3IBU	211	109	27,904	MS
VA3LX	219	79	22,515	SOHP Mixed
VE3FJ	135	72	20,016	SOHP CW
VA3WR	129	72	16,992	SOQRP
VE3FGU	104	71	14,697	SOHP Mixed
VE3NZ	119	59	14,042	SOLP CW
VA3OPP	141	71	11,928	SOLP Phone
VA3EC	99	53	10,494	SOLP CW
VE3EY	100	43	8,944	SOHP CW
VE3HEU	81	48	8,160	SOLP Mixed
VE3RZ	85	44	7,832	SOLP CW
VE3FH	77	41	7,790	SOLP Mixed
VE9ML	60	43	7,568	SOLP Mixed
VE3EIB	71	37	5,550	SOLP CW
VE3CV	57	42	4,452	SOLP Mixed
VA3KAI	60	34	4,250	SOLP Mixed
VE3VN	50	35	3,780	SOQRP
VA3FN	45	29	3,074	SOLP CW
VE4YU	36	28	2,940	SOLP Mixed
VA3ATW	97	29	2,813	SOLP Phone
VA3PAW	42	23	2,599	SOLP Mixed
VE7IO	33	26	2,340	SOHP CW
VA3TIC	49	33	1,914	SOLP Phone
VE1RGB	25	21	1,722	SOLP CW
VA3RKM	31	20	1,600	SOQRP
VE3DLJ	27	25	1,350	SOLP Phone
VE3XT	40	17	1,343	SOQRP
VE3AD	50	22	1,100	SOHP Phone
VE3EDX	31	12	900	SOQRP
VE3DVY	18	16	704	SOLP Mixed
VA3KHH	19	14	644	SOLP Phone
VE3AJ	40	12	588	SOLP Phone
VA3FS	22	16	560	SOLP Mixed
VA3IK	22	12	516	SOLP Mixed
VE3SB	14	12	324	SOLP Mixed
VE3TU	8	7	245	SOLP Phone
VE3XAT	11	7	154	SOLP CW
VE3KTB	17	7	119	SOLP Phone
VE9BWK	7	5	80	SOQRP
VE3JI	9	4	72	SOLP CW
VE7NI	6	5	60	SOQRP
VA3SRV	4	4	52	SOLP Phone
VE2PIJ	1	1	1	SOLP Phone
VE3JSO	1	1	1	SOLP Phone
VE3RCN	1	1	1	SOLP Phone

CLARA CONTEST

Call	Score
VE3HQH	2,096
VE7IM	805
VE7TJF	395
VE1VCI	168
VE3MHP	60

For the RAC Store visit: http://www.cafepress.ca/rac_radio

RUSSIAN DX CONTEST

Call	QSO	DXCC	Obl	Score	Class
VA2WA	1,920	270	244	6,219,400	SOAB-CW
CJ3A (VE3AT op)	2,065	267	177	5,149,068	SOAB-MIX
VE7ACN	987	207	165	2,157,972	SOAB-MIX
VE3RZ	693	186	128	1,337,640	SOAB-CW
VE1RGB	716	185	124	1,284,204	SOAB-CW-LP
VE3TA	411	149	93	614,196	SOAB-CW
VE2AWR	437	138	54	466,752	SOAB-MIX-LP
VE3CX	339	132	51	329,583	SOAB-MIX
VE1OP	321	107	68	289,975	SOAB-CW
VE9HF	309	64	69	275,576	SOAB-CW
VE9ML	204	12	128	265,300	SOAB-MIX-LP
VE3XAT	191	114	72	213,342	SOAB-CW-LP
VA3ATT	239	98	45	154,154	SOAB-CW-LP
VE7JH	196	39	65	151,424	SOAB-CW-LP
VE5MX	169	32	59	112,203	SOAB-CW
VE9OA	170	75	44	104,601	SOAB-MIX-LP
VE3EJ	150	64	49	101,474	SOAB-CW
VE3MGY	182	64	22	56,932	SOAB-MIX-QRP
VE4VT	87	34	31	42,965	SOAB-MIX
VE3HG	98	35	28	35,784	SOAB-MIX-QRP
VA3WPV	87	40	9	23,569	SOSB-28
VA3WPV	65	32	8	14,440	SOSB-14
VA3EC	58	23	17	13,680	SOSB-28
VE2PIJ	50	41	5	10,810	SOAB-SSB-LP
VO1HP	37	6	27	10,725	SOSB-21
VE4DRK	45	31	7	8,892	SOAB-SSB-LP
VA2OBW	36	29	6	5,355	SOAB-SSB
VE3RCN	24	20	2	2,816	SOAB-MIX-LP
VE7RSV	24	5	19	2,640	SOAB-SSB-LP
VA3PAW	37	23	7	2,520	SOAB-CW-LP
VA2UTC	20	14	5	2,014	SOSB-21
VE6SPS	20	17	3	940	SOAB-SSB-LP
VA3FN	18	7	3	610	SOSB-7
VE7GM	5	4	1	120	SOAB-MIX-QRP
VE3DQN	5	4	1	0	SOAB-MIX-QRP
VE7TI	7	3	5	0	SOSB-14

FLORIDA QSO PARTY

Call	QSO	Mult	Score	Category	PWR
VE3KZ	619	119	270,606	SO MIX	LOW
VE3DZ	653	67	174,468	SO CW	LOW
VE9ML	325	93	108,438	MO MIX	LOW
VE1RGB	399	67	105,056	SO CW	LOW
VA3ATT	238	65	59,540	SO CW	LOW
VE3UTT	223	67	58,156	SO CW	LOW
VE3RZ	182	87	56,724	SO MIX	LOW
VA3EC	182	63	45,612	SO CW	LOW
VE3CR	269	95	44,555	SO MIX	HIGH
VE3VN	138	48	39,456	SO CW	QRP
VE3EJ	139	59	32,332	SO CW	LOW
VE3TW	128	75	29,400	SO MIX	LOW
VE3HG	88	53	26,712	SO CW	QRP
VE6UM	116	62	26,040	SO MIX	LOW
VE3CX	170	75	23,400	SO MIX	HIGH
VE4VT	134	69	16,560	SO MIX	HIGH
VE5KS	82	47	12,878	SO MIX	LOW
VE2FK	137	47	12,784	SO CW	HIGH
VE3XD	51	37	11,322	SO CW	QRP
VE3RCN	65	47	9,494	SO MIX	LOW
VE3PQ	52	40	5,680	SO MIX	LOW
VE3NB	67	34	4,556	SO SSB	LOW
VA3WPV	41	27	3,240	SO SSB	QRP
VE3FU	49	42	3,192	SO MIX	HIGH
VA3PC	45	32	2,880	SO SSB	LOW
VE3HED	59	34	2,006	SO SSB	HIGH
VA3GUY	30	22	1,936	SO CW	LOW
VE1DT	35	22	1,540	SO CW	HIGH
VE5GC	19	13	728	SO CW	LOW
VA7ST	13	12	624	SO CW	LOW
VE9BWK	9	8	408	SO MIX	QRP
VE2YA	10	10	200	SO SSB	LOW
VE2PIJ	11	9	198	SO SSB	LOW
VE3AUO	7	6	84	SO SSB	LOW
VE9CX	6	6	72	SO SSB	LOW

RSGB - BERU

Call	QSO	Mult	Score	Class	Category	Power
VE3EJ	1,221	173	12,105	Open	24-HOURS	1,000
CJ3A (VE3AT)	1,209	165	11,885	Open	24-HOURS	1,000
VE3JM	1,203	161	11,695	Open	24-HOURS	1,000
VY2GQ (G3LET)	1,121	165	11,465	Open	24-HOURS	750
VE3OI	1,066	147	10,690	Open	24-HOURS	1,000
VE7CC	830	162	9,990	Multi		700
VO2AAA (VO1AU)	963	146	9,795	Open	24-HOURS	700
VE7JH	707	139	8,495	Multi		1,000
VE3KI	710	116	7,350	Open	24-HOURS	500
VE9ML	715	115	7,195	Multi		100
VE3ZI	664	114	7,100	Open	24-HOURS	1,000
VE3UTT	606	123	6,390	Open	12-HOURS	1,000
VE1RGB	545	106	6,165	Restricted	24-HOURS	100
VO1RAC (VO1HP)	645	86	5,885	HQ		500
VE6WQ	473	91	5,245	Open	12-HOURS	100
VE7RAC (VE7JKZ)	334	99	4,950	HQ		350
VA3DX	369	105	4,825	Multi		1,000
VE2AEJ	324	88	4,400	Restricted	24-HOURS	100
VE3MM	421	74	4,345	Open	12-HOURS	1,000
VE3VHB	271	102	4,315	Open	12-HOURS	1,000
VE2AWR	408	68	4,260	Restricted	12-HOURS	100
VE3DZ	381	78	4,085	Open	12-HOURS	400
VE3TG	311	78	3,795	Restricted	12-HOURS	100
VA7ST	263	73	3,535	Open	12-HOURS	500
VA3EC	344	57	3,380	Restricted	12-HOURS	100
VE3IAE	283	56	3,255	Restricted	12-HOURS	100
VE1ZA	246	60	3,230	Multi		100
VE4YU	189	72	3,125	Open	12-HOURS	150
VE3MGY	223	60	3,115	Restricted	24-HOURS	5
VE5MX	146	79	3,070	Open	24-HOURS	500
VO1GO	235	60	3,055	Restricted	24-HOURS	90
VE3USP	233	63	3,045	Open	12-HOURS	100
VE4EA	262	57	3,030	Open	12-HOURS	100
VE5ZX	288	42	2,840	Open	12-HOURS	100
VA2WA	300	44	2,780	Open	12-HOURS	100
VE3ZY (VE3FFK)	148	59	2,500	Restricted	24-HOURS	75
VE3KAO	177	48	2,345	Restricted	12-HOURS	100
VE7IO	109	51	2,205	Multi		1,000
VE6LB	139	49	2,155	Multi		800
VO2AC	159	43	2,135	Restricted	24-HOURS	5
VE7AX	142	46	2,110	Open	12-HOURS	850
VE3OSZ	111	56	2,055	Open	12-HOURS	100
VE1OP	140	44	1,980	Multi		600
VE3XAT	143	38	1,955	Multi		100
VO1BQ	197	27	1,905	Restricted	12-HOURS	100
VA3RKM	116	45	1,900	Restricted	12-HOURS	5
VE5SF	187	25	1,875	Open	12-HOURS	100
VE9AA	212	24	1,820	Open	12-HOURS	500
VE2QV	132	34	1,780	Restricted	12-HOURS	100
VE5VA	111	36	1,675	Open	12-HOURS	5
VE3JAQ	112	36	1,580	Restricted	12-HOURS	100
VE7BQO	67	44	1,495	Restricted	12-HOURS	5
VE3CES	79	38	1,455	Open	12-HOURS	100
VE3IGJ	79	36	1,455	Restricted	24-HOURS	50
VE3OM	81	40	1,445	Open	24-HOURS	100
VE3FH	68	36	1,380	Restricted	12-HOURS	100
VA1MM	105	23	1,345	Restricted	12-HOURS	12
VA7MM	58	35	1,270	Restricted	12-HOURS	100
VE3CWU	69	35	1,265	Multi		100
VE2FK	78	30	1,250	Open	12-HOURS	500
VE9OA	75	25	1,235	Restricted	12-HOURS	100
VA2ES (VE2AXO)	61	26	1,085	Open	12-HOURS	100
VE9BWK	56	22	960	Restricted	12-HOURS	5
VE4VT	39	27	935	Open	12-HOURS	400
VE7GM	50	24	930	Restricted	12-HOURS	100
VE7BGP	40	28	920	Open	24-HOURS	100
VE2GHI	58	16	850	Restricted	24-HOURS	75
VA3FN	21	14	465	Restricted	12-HOURS	95
VE1LS	24	9	440	Restricted	24-HOURS	100
VE3CX	13	10	305	Open	12-HOURS	1,000
VE3DQN	12	6	260	Restricted	12-HOURS	5
VE8YK	5	3	225	Multi		5

CQ WW WPX SSB

Call	QSO	Mult	Score	Class
CJ3A (VE3AT op)	4,074	1299	16,851,927	SO HP ALL
VC6R	3,644	1266	13,613,298	MULTI-ONE HP
VE7GL	3,318	1219	12,808,033	MULTI-ONE HP
VE3DZ	2,982	1072	10,210,800	SO HP ALL (T)
VE3OI	2,712	1065	8,631,825	SO HP ALL
VA2EN	2,307	1055	7,487,335	MULTI-ONE HP
VB7R (VA7AAA op)	2,658	973	6,939,436	SO HP ALL
VA5AA	2,439	1040	6,437,600	MULTI-MULTI
VE4VT (VE4EAR op)	2,147	898	5,382,612	SO LP ALL
VE3RZ	1,699	864	4,615,488	SA HP ALL
VE6FI	2,020	877	4,521,812	MULTI-TWO
VE7XT	1,754	764	3,603,788	SA HP ALL (T)
VA3SWG	1,481	719	3,335,441	SO LP ALL
VC6Z (VE5MX op)	1,683	752	3,255,408	SA HP 10M
VE9ML	1,396	713	3,187,110	MULTI-ONE LP
VO1KVT	1,318	735	2,891,490	SO HP ALL (T)
VA7ST	1,263	711	2,666,250	SO HP ALL
VE7JT	1,672	686	2,641,100	MULTI-MULTI
VE3CX	1,273	743	2,515,798	SA HP 10M
VE2PIB	1,292	651	2,055,858	SO HP ALL
VO2NS	1,138	635	2,028,825	SO HP ALL
VA3CCO (VE3KZ op)	1,036	646	1,901,824	SO HP 15M
VE3TW	1,011	567	1,712,340	SA LP ALL (T)
VA3XH	905	522	1,606,194	SO HP ALL
VE7FO	1,018	568	1,467,712	MULTI-ONE HP
VA7CRZ	896	566	1,371,984	SO LP ALL
VE3NB	815	492	1,261,488	SO LP ALL
VE3GFN	813	491	1,196,076	SO LP ALL (T)
VE1ZD	786	482	1,092,212	SA LP ALL
VY2MGY/3 (VE3MGY)	822	323	1,021,003	SO LP 40M (T)
VE8GER	719	503	953,688	SO LP ALL
VE3ZZ	676	435	923,505	SA HP ALL (T)
VE3DVY	714	418	885,742	SO LP ALL
VE4YU	641	434	766,010	SO LP ALL
VE6AO	670	439	740,593	MULTI-ONE HP
VA3DBT	570	357	652,239	SO LP ALL (R)
VE3MIS	540	441	638,568	SA HP 15M
VA7FC	619	387	600,237	SA HP 10M (T)
VE3KKQ	518	352	588,192	SO LP ALL
VE7XF	521	388	576,180	SA HP ALL (T)
VA3GD	526	345	535,785	SO LP ALL
VA2WA	532	337	529,427	SA HP ALL
VE3TU	562	383	527,008	SA LP 15M (T)
VO1TX	549	363	513,282	SO LP ALL
VA3UG	516	342	500,688	SO LP ALL
VE3FH	528	351	494,910	SO LP ALL
VA3EJN	467	355	465,760	SO LP ALL
VE3KTB/VY0	528	353	461,018	SO LP ALL (T)
VE7SAR	441	350	434,350	MULTI-ONE HP
VY1EI	639	280	416,360	SO HP 10M (T)
VE1JBC	427	308	383,460	SO HP ALL
VE3IAE	441	315	378,945	SA LP ALL
VE3VN	441	299	369,863	SO QRP ALL
VE6AMI	382	285	349,695	SO HP ALL
VC7X (VE7JH op)	432	305	333,975	SA LP 10M (T)
VE3SWS	373	318	330,720	SO LP ALL (T)
VA2ES	395	277	322,151	SO LP ALL
VE9WH	377	297	318,087	SA LP ALL
VE6LB	364	301	308,525	SA HP ALL (T)
VE3TA	316	252	274,680	SO HP ALL
VE3BK	310	260	262,860	SA HP ALL
VA3VF	351	258	255,420	SO QRP ALL
VE1PEW	348	265	251,750	SO LP ALL
VA3GUY	304	271	228,724	SO LP 15M
VA3IK	305	230	197,110	SO HP ALL
VA3NW	300	232	196,040	SO LP ALL
VE7URN	298	228	190,152	SA LP ALL (T)
VE4DRK	327	218	187,044	SO LP ALL
VE3NRT	266	209	177,859	SO LP ALL (T)
VE3BR	243	202	168,670	SO LP ALL
VA7IR	303	218	162,192	SA QRP ALL (T)
VE1ZA	263	206	158,002	SA LP ALL
VE4DXR	264	218	154,780	SA HP ALL (R)
VA2OBW	254	197	153,266	SO HP ALL
VO1DJT	268	199	153,230	SO LP ALL
VY1MB	318	196	139,944	SA HP ALL (R)

VA3YT	234	211	138,627	SO QRP 10M
VE7NA	247	198	124,542	MULTI-ONE LP
VA3ROC	219	174	115,884	SO LP ALL
VE2PDT	215	181	108,600	SO LP ALL (R)
VE7BC	258	173	107,087	SO LP 10M (T)
VE3HG	202	182	103,012	SA LP 10M
VE9OA	196	167	102,037	SA LP ALL
VE6SPS	214	163	92,095	SA LP ALL
VE5CON	194	172	86,000	SO LP ALL
VE7TJF	180	167	84,669	SA LP ALL
VE7ACN	200	155	83,855	SA HP ALL
VE6FN	183	160	78,080	SA HP ALL
VE2CJR	191	161	76,153	SA LP ALL
VE6SQ	199	156	74,100	SO LP ALL (T)
VE3RCN	174	146	72,562	SO LP ALL (T)
VE7FCO	159	148	61,568	SO LP ALL (T)
VE3PQ	135	125	53,375	SO LP ALL
VA7RP	173	120	52,920	SA LP ALL
VA3FS	136	132	49,764	SO LP ALL
VE6BF	144	140	45,640	SO LP 20M
VE6UM	146	127	45,212	SO QRP 10M
VO1JLB	136	123	42,435	SO LP ALL (R)
VE3EDY	133	76	38,608	SO LP 160M (T)
VE2YA	116	115	37,260	SA LP 20M
VA6UK	116	110	37,180	SO HP ALL
VE4AKF	129	119	36,890	SO HP ALL
VA3MTT	112	99	30,096	SO HP ALL (R)
VE3GNI	95	93	24,831	SO LP ALL
VE7RSV	93	91	24,388	SO LP ALL
VE2JR	97	94	23,782	SO HP ALL
VE3OIL	98	86	23,220	SO LP ALL
VE6BHO	109	90	22,770	SO LP ALL
VA3EEB	96	89	22,695	SO LP ALL
VE3HEU	99	90	22,680	SA LP 10M
VE2OBE	95	84	21,840	SO LP ALL
VA7JC	100	94	21,526	SA LP ALL
VE3XAT	76	76	15,960	SA LP 10M (T)
VE7IAD	75	63	12,285	SO LP ALL
VE3LJQ	68	65	12,025	SO QRP 10M (R)
VE3PYJ	53	51	10,812	SO LP 40M (T)
VE3AUO	62	61	8,113	SA LP 10M
VE9BWK	55	49	6,713	SA LP ALL
VE3QEE	48	47	6,439	SO LP ALL
VA3JLF	47	46	6,210	SO LP ALL
VA2QR	48	47	6,063	SA HP 20M
VE3VCF	47	44	5,324	SO LP ALL
VE5GC	48	44	4,972	SO LP 10M
VE3EP	39	37	3,441	SO LP ALL
VA6SP	38	32	3,200	MULTI-ONE LP
VE3DQN	34	32	3,168	SO QRP 10M
VY0/VE3VID	27	27	2,133	SO LP 20M (T)
VA2RIO	19	18	1,188	SO LP ALL
VE2EVN	17	17	748	SA LP 10M
VE3HED	16	14	630	SO HP ALL
VA3FN	15	15	570	SO LP 10M (T)
VE3AJ	11	11	319	SO LP 10M
VE2PIJ	9	9	252	SO LP 80M (T)
VE6FX	9	9	216	SO LP ALL
VE2ZA	9	9	153	SO LP 20M
VA7ARI	4	4	40	SO QRP ALL (R)
VA2SCJ	3	3	24	SO LP 20M (R)

SP DX

Call	QSO	Mult	Score	Category
VE2SG	446	111	2,365,965	SOAB HP
VE2EBK	328	123	1,744,140	SOAB HP
VA3XH	281	112	1,514,688	SOAB HP
VE3FH	217	115	1,246,140	SOAB LP
VA7ST	216	62	678,900	SOAB HP
VA2UP	179	79	588,550	SOAB HP
VE2FK	144	59	252,225	SOAB HP
VE2NMB	102	52	156,000	SOAB HP
VE3FK	68	51	114,036	SOAB LP
VE3AJ	37	20	21,120	SOAB LP
VE2KOT	35	27	17,820	SOAB LP
VE2CQF	22	11	3,212	SOAB HP

EA-RTTY

Call	QSO	Mult	Score	Category
VA2UP	913	335	437,845	SOAB HP
VE2EBK	288	181	80,364	SOAB LP
VE2SG	253	142	54,670	SOAB HP
VE3FH	189	145	43,645	SOAB LP
VA7ST	153	102	21,114	SOAB HP
VE6AMI	146	89	20,470	SOAB HP
VE2NMB	95	76	9,956	SOAB HP
VE3KAO	77	72	8,280	SOAB LP
VA3XH	84	40	4,640	SO40
VE3XAT	48	56	3,920	SOAB LP
VE7BGP	30	33	1,188	SOAB LP
VA3FN	20	23	1,104	SO10

NA SPRINT RTTY – MARCH

Call	QSO	Mult	Score	Power
VE3VSM	125	35	4,375	Low
VE2FK	109	32	3,488	High
VE2EBK	94	36	3,384	Low
VE3NRT	82	34	2,788	Low
VE3JI	53	28	1,484	Low
VE2NMB	32	22	704	High
VE6SQ	32	16	512	Low
VE3RCN	13	10	130	Low

GEORGIA QSO PARTY

Call	Score	Class
VE3KZ	11,160	SO CW LP
VE2FK	874	SO CW HP
VA3GKO	798	SO SSB LP
VE3HED	570	SO SSB HP
VE3TW	551	SO MIXED LP
VE5XU	513	SO SSB HP
VE3PQ	352	SO MIXED LP
VA3AH	210	SO SSB LP
VE5GC	160	SO MIXED LP
VA3WPV	144	SO SSB LP
VA3PAW	54	SO MIXED LP
VE9BWK	28	SO MIXED LP
VE2PIJ	4	SO SSB LP

NA SPRINT SSB – MARCH

Call	QSO	Mult	Score	Power
VE3VSM	98	33	3,234	Low
VA3TIC	69	31	2,139	Low
VE3RCN	26	18	468	Low
VE5XD	22	18	396	Low
VE8GER	16	13	208	Low
VE3RCN	13	10	130	Low

QCWA SPRING QSO PARTY

Call	Score	Class
VE3CD	1,289	CQ100
VE3KI	1,186	CW/DIG
VE6AFO	1,143	MIXED
VE3XK	622	CQ100
VE3BBM	476	CW/DIG
VE3MJT	125	CQ100
VE3CD	16	SSB

ERRATUM: JAN/FEB 2015 CQ 160-METRE CONTEST CW

Call	QSO	Mult	Score	Category
VE3DC	472	55	125,950	MO

Ops VA3TUR, VE3BK, VE3DCU, VE3QEE, VE3RIA

For the RAC Store visit: http://www.cafepress.ca/rac_radio

CONTEST CALENDAR FOR MARCH, APRIL AND EARLY MAY 2015

Contest Name	Start	End	Web Address
ARRL Int. DX SSB	0000z 7 Mar	2359z 8 Mar	http://www.arrl.org/arrl-dx
NSARA Contest (Morning)	1200z 8 Mar	1600z 8 Mar	http://nsara.ve1cfy.net/nsaracst.htm
NSARA Contest (Afternoon)	1800z 8 Mar	2200z 8 Mar	http://nsara.ve1cfy.net/nsaracst.htm
NCJ Sprint RTTY	0000z 15 Mar	0400z 15 Mar	http://ncj.arrl.org/Sprint-Rules.pdf
ARCI Spring Digital Sprint	1500z 14 Mar	1800z 14 Mar	http://www.qrparci.org/contests/qrp-arci-contests
RSGB Commonwealth CW	1000z 14 Mar	1000z 15 Mar	http://www.rsgbcc.org/hf/rules/2014/rberu.shtml
Idaho QSO Party	1900z 14 Mar	1900z 15 Mar	http://www.idahoarrl.info/qsoparty/rules.htm
Wisconsin QSO Party	1800z 15 Mar	0100z 16 Mar	http://www.warac.org/wqp/wqp.htm
QCWA Spring QSO Party	1800z 14 Mar	1800z 15 Mar	http://www.qcwa.org/
CLARA & Family Contest (Part 1)	1700z 18 Mar	1700z 19 Mar	http://www.clarayl.ca/
NAQCC Sprint	0030z 19 Mar	0230z 19 Mar	http://naqcc.info/contests.html
Russian DX Contest	1200z 21 Mar	1200z 22 Mar	http://www.rdxc.org/asp/pages/rulesg.asp
Virginia QSO Party (Part 1)	1400z 21 Mar	0200z 22 Mar	http://www.qsl.net/sterling/uf1.htm
Virginia QSO Party (Part 2)	1200z 22 Mar	2400z 22 Mar	http://www.qsl.net/sterling/uf1.htm
NCJ Sprint SSB	0000z 22 Mar	0400z 22 Mar	http://ncj.arrl.org/Sprint-Rules.pdf
BARTG Spring RTTY Contest	0200z 21 Mar	0200z 23 Mar	http://www.bartg.org.uk/hfrttycontest.asp
CLARA & Family Contest (Part 2)	1700z 22 Mar	1700z 23 Mar	http://www.clarayl.ca/
Oklahoma QSO Party (Part 1)	1300z 21 Mar	0100z 22 Mar	http://k5cm.com/okqp.htm
Oklahoma QSO Party (Part 2)	1300z 22 Mar	1900z 22 Mar	http://k5cm.com/okqp.htm
CQ WW WPX SSB	0000z 28 Mar	2359z 29 Mar	http://www.cqwpx.com/
ARCI QRP Spring CW	1200z 4 Apr	2359z 5 Apr	http://www.qrparci.org/contests/qrp-arci-contests
SP DX Contest	1500z 4 Apr	1500z 5 Apr	http://www.sk3bg.se/contest/pdf/spdx.pdf
EA RTTY Contest	1600z 4 Apr	1600z 5 Apr	http://concursos.ure.es/en/eartty/
JIDX CW Contest	0700z 11 Apr	1300z 12 Apr	http://www.jidx.org/jidxrule-e.html
Georgia QSO Party (Part 1)	1800z 11 Apr	0359z 12 Apr	http://georgiaqsoparty.org/
Georgia QSO Party (Part 2)	1400z 12 Apr	2359z 12 Apr	http://georgiaqsoparty.org/
NAQCC Sprint	0030z 15 Apr	0230z 15 Apr	http://naqcc.info/contests.html
Holyland DX Contest	2100z 17 Apr	2100z 18 Apr	http://www.iarc.org/iarc/#HolylandContest
Michigan QSO Party	1600z 18 Apr	0400z 19 Apr	http://www.miqp.org/index.html
Ontario QSO Party (Part 1)	1800z 18 Apr	0500z 19 Apr	http://www.va3cco.com/oqp/rules.htm
Ontario QSO Party (Part 2)	1200z 19 Apr	1800z 19 Apr	http://www.va3cco.com/oqp/rules.htm
Manchester Mineira DX Contest	1200z 18 Apr	2359z 19 Apr	http://www.cwjf.com.br/
YU DX Contest	2100z 18 Apr	1700z 19 Apr	http://www.yudx.yu1srs.org.rs/2015/rules.html
Nebraska QSO Party	1200z 18 Apr	1700z 19 Apr	http://www.qcwa.org/chapter025.htm
Florida QSO Party (Part 1)	1600z 25 Apr	0159z 26 Apr	http://www.floridaqsoparty.org/index.html
Florida QSO Party (Part 2)	1200z 26 Apr	2159z 26 Apr	http://www.floridaqsoparty.org/index.html
SP DX RTTY Contest	1200z 25 Apr	1200z 26 Apr	http://www.pkrvg.org/strona,spdxrttyen.html
Helvetia Contest	1300z 25 Apr	1259z 26 Apr	http://www.uska.ch/index.php?id=87&L=3
ARI DX Contest	1200z 2 May	1159z 3 May	http://www.ari.it/index.php?option=com_content&view=category&layout=blog&id=250&Itemid=270&lang=en
7QP QSO Party	1300z 2 May	0700z 3 May	http://www.codxc.com/new/page.asp?content=start
CQ-M International DX Contest	1200z 9 May	1159z 10 May	http://www.srr.ru/CONTEST/cq_m_11_eng.php
Volta WW RTTY Contest	1200z 9 May	1200z 10 May	http://www.contestvolta.com/48rules.pdf

BRITISH COLUMBIA/YUKON:

SM Acting Bill Gipps, VE7XS
A/SM Ron McFadyen, VY1RM
A/SM Neil King, VA7DX
STM Al Ross, VE7WJ
SEC Acting Al Munnik, VA7MP
SEC Terry Maher, VYIAK (Yukon)
OBM Bill Foster, VE7WWW
OOC: Dennis Wight, VE7IJJ
ACC: Karla Wakefield, VA7KJW
Website: www.va7mpg.ca

NOVEMBER-DECEMBER SM REPORT:

The Simulated Emergency Test (SET) was organized and run on Saturday, November 22, 2014. It was run much later in the year than we wanted, but some personal commitments, and personnel changes contributed to the later date. It started at 9 am and was completed by noon Pacific.

The test was intended to verify local and regional communications, and then HF links back to the South West Provincial Regional Emergency Operations Centre (PREOC). We had participation around BC and in the Yukon.

A big thank you to those who picked up the extra load and made this exercise happen. We are in the process of summarizing the "lessons learned", and we will be better positioned for the next exercise. For those of you that gave up your time, so close to Christmas – thank you.

– Bill Gipps, VE7XS

Public Service Honour Roll
November:
VE7DWG: 76; VE7XLH: 115; VE7WWW: 136; VE7RV: 91; VE7GN: 155; VE7WJ: 115; VA7MPG: 90.
December:
VE7XLH: 130; VE7DWG: 80; VE7WWW: 98; VE7GN: 140; VE7WJ: 98.

ALBERTA:

SM: Garry Jacobs, VE6CIA
SEC: Neal Sunderland, VE6NL
STM: Jack Humphries, VE6JRH
OOs: Don Momen, VE6JY
Tom Martens, VE6TRM

NOVEMBER-DECEMBER SM REPORT:

Calgary Regional ARES
Ian, VA6EMS

The monthly meeting of Calgary ARES was held on November 24 and our Holiday Dinner was held on December 15. We are working on monthly training sessions for the region for the new year.

RAC SECTION MANAGER ELECTION NOTICE: ALBERTA

You are hereby solicited for nominating petitions pursuant to an election for Section Manager. The name of the incumbent appears on **page 4** of this issue of *The Canadian Amateur*. A petition, to be valid, must carry the signatures of 10 or more full members of RAC residing in the Section concerned. It is advisable to have more than 10. Photocopied signatures are *not* acceptable. Signatures must be on the petition.
Petition forms are available from RAC Headquarters but are not required.

The form below is acceptable:

Notice to all RAC members in the Alberta Section

(place & date)

RAC Chief Field Services Officer
720 Belfast Road, Suite 217
Ottawa, ON K1G 0Z5

We, the undersigned RAC Full members residing in the ***Alberta Section***, hereby nominate

(name & call sign)

as Section Manager for this Section for the next two-year term of office.

(signatures & call signs)

(addresses with postal codes)

A Section Manager must be a resident of his or her Section, a licensed Radio Amateur holding an Amateur operator's Certificate (or equivalent as stipulated by the *Radiocommunication Regulations*) and should always operate radio equipment only within the limits and privileges of the certificate and qualification held, and have been a RAC Full Member for a continuous term of two years at the time of nomination.

Petitions will be received at the RAC Headquarters office until 1600E on **April 10, 2015**. If only one valid petition is received, the person nominated will be declared elected. If more than one valid petition is received, a balloted election will take place. Ballots will be mailed from RAC Headquarters on or about **May 1, 2015**. Return of ballots by 1600E **June 19, 2015** and will be counted after **June 26, 2015**.

A Section Manager elected will take office on **July 1, 2015** to complete a two-year term until **June 30, 2017**. If no valid petition is received, the Section will be resolicited in *The Canadian Amateur*.

Sask/Alta Group
Joe, VE5JM

Winter has settled in nicely to our Western Saskatchewan and Eastern Alberta country. The weather has been a mixed bag of cold windy, warm windy and mostly windy, along with the usual mix of rain and snow. That did not stop us from getting the bugs worked out of our repeater linking project. We now have three repeaters up and happily talking to each other and to anyone that would like to connect to them.

The VE5RI repeater is located at the Blackfoot Hills southwest of Lloydminster and the frequency is 146.940/340. VE6YVG is located just north of Vermilion and it is working on 147.315/915. Lastly, VE6RWC is located east of Edgerton on highway #610 and the frequency is 145.290/144.690 with a 123 Hz tone on your TX. Check out the Repeater Book website at http://www.repeaterbook.com/index.php?state_id=none for more information.

We also have an EchoLink (http://www.echolink.org/) connection to the system on node number 470103.

Lastly, we have a standalone UHF repeater VE5YLL located in the city on frequency 444.725/449.725 and it has an IRLP node connected to it on node #1363. Use a 100 Hz tone on your TX to wake up the IRLP radio. For more information about IRLP go to http://irlp.net/.

Stay tuned for more information as our repeater linking continues this spring. When complete it will greatly enhance our emergency operations for the Eastern Saskatchewan and Western Alberta area. We are continuing our efforts to get the new Emergency Operations Centre (EOC) radio room put together.

The list of working frequencies has been submitted for discussion and we are looking at what antennas and radios we will install. We will be working with the city to test the EOC sometime in February and see how it will all work. This should be fun and a great learning opportunity.

The Sask/Alta Radio Club is starting to run the 9 pm Local time Sunday evening ARES net again and for November/December we had two sessions with nine stations checked in. We hope this will improve as time moves on and the nets get more regular.

In December, the Sask/Alta Radio Club held its annual Christmas supper and Annual General Meeting (AGM). It was well attended and at the AGM there were changes made to the Management Team. We now have a new President Don, VE6VAC, from Vermilion, Alberta and a new Vice-President Jim, VA6NJK, from Lloydminster, Alberta.

Thanks for the reports.

– 73, Garry, VE6CIA

MANITOBA:

SM: Jan Schippers, VE4JS
STM: Jan Schippers, VE4JS
SEC: Vacant
DECs: Jeff Dovyak, VE4MBQ (Capital Region and CanWarn); Gord Snarr, VE4GLS (South-East Central Region / South-West Region); Wayne Warren, VE4WR (North Region and Special Projects); Vacant (North-Eastern Region); Vacant (North-West Region);
EC Ron Wlliscroft, VE4QE (Selkirk and District); Bill Boskwick, VE4BOZ for RM of Grey, RM of Dufferin & Town of Carman

NOVEMBER-DECEMBER SM REPORT:

That's it, another year is gone and I hope everyone got all they wanted for Christmas.

The Winnipeg Amateur Radio Emergency Service (Winnipeg ARES) was awarded the Wing Commander's Commendation for their help with the 17 Wing Royal Canadian Air Force (RCAF) Run. This is a very big honour as these commendations are not given out lightly. Congratulations to Winnipeg ARES for their dedication to this event.

I want to thank the technical guys who go out and service the VE4MRS and VE4PLP repeaters in our area on cold, snowy days: Ellis Seddon, VE4AJO, Yori Tsuji, VE4ACX and Derek Hay, VE4HAY.

Winnipeg ARES
Jeff Dovyak, VE4MBQ

In addition to approving the 2013-14 Financial Statement and 2014-15 Budget, the following is our slate of Executive Officers for 2014-15 who were elected by acclamation: President Jim Sutton, VE4SIG; Secretary Dick Maguire, VE4HK; and Treasurer Susan Collings, VE4SYM.

Thanks to long-serving Winnipeg ARES President Glen Napady, VE4GWN, for his many years of service as President. Glen did not seek re-election. The rest of the Winnipeg ARES leadership team is: Emergency Coordinator Jeff Dovyak, VE4MBQ; Assistant EC Glen Napady, VE4GWN; Assistant EC Norman Coull, VE4EH; Public Information Officer Jim Sutton, VE4SIG; Webmaster Kent Haase, VE4KEH; and Fundraising Co-Chairs Craig Martin, VE4CDM and Tom Mills VE4SE.

At our November meeting, William Franzin, VE4VR, spoke about the high-speed multimedia Amateur Radio data network that he is involved in. A number of Winnipeg ARES members brought toys and/or cash donations for the Salvation Army Toy Mountain Campaign. Jeffrey Kazuk, VE4JFK, recently joined the ARES Auxiliary.

VA4PNO, VA4RWT and VE4JDH completed the Winnipeg Emergency Management (WEM) course in October. Since January 2014, nine Winnipeg ARES members have taken the WEM Course. Approximately 70% of Winnipeg ARES membership has taken at least a basic Emergency Management course such as WEM or Manitoba Emergency Management (MEM).

My thanks are extended to AEC Norman Coull, VE4EH, for covering Winnipeg ARES and to Gord Snarr, VE4GLS, for covering Manitoba ARES when I had a work-related trip in Ottawa in early November.

Thirty-four Winnipeg ARES members and affiliates provided volunteer Amateur communication for the Santa Claus Parade on Saturday, November 15. Thanks to our volunteer operators: VA4s: RWT, PNO, VBC, DON and MAC. VE4s: KAZ, HK, JDH, SBS, VD, STS, CK, RDO, JAH, JFK, SIG, JRB, MWH, ANG, SHS, TTH, CHT, TSY, ANF, HAZ, JHJ, GWN, FDM, CLK, TRO, CDM, DDW, GMB and MBQ. In addition to Winnipeg ARES, the following organizations facilitated our operation: the Manitoba Repeater Society; the Pathfinders Amateur Radio Club; Manitoba Emergency Communications; the Shaftesbury High Altitude Robotics Project (SHARP); and the Winnipeg Amateur Radio Club.

As described earlier, on Tuesday, December 9, DEC Craig Martin, VE4CDM, accepted the Wing Commander's Commendation on behalf of Winnipeg ARES from 17 Wing Commander Colonel J.J. Roy and 17 Wing Chief Warrant Officer A.M. Robertson. Winnipeg ARES has been supporting the 17 Wing RCAF Run with volunteer Amateur Radio communications for several years. For more information see the article on page 52.

Recruiting is underway for the 2015 Manitoba Marathon which will be held on Fathers' Day Sunday, June 21. Recruiting is also underway for the annual Scouts Canada Klondike Derby on March 7 and 8, which is a two-day, all-weather, all-day event and volunteers are expected to be outdoors.

At our December meeting, retired Air Canada 777 Captain, Larry Brown, gave us a fascinating and frank presentation on the aircraft accident that he was involved in. The accident took place in September 2013 over the Brandon Municipal airport (CYBR) and involved the Vintage Wings of Canada-owned Boeing PT-27 Stearman C-GKUE biplane (which was a total loss). Thanks to Jim, VE4GMT, for suggesting Larry and his story.

Although Winnipeg ARES was not activated on Monday, December 22 during the MTS system problems, there has been some informal yet significant discussion since with the City of Winnipeg Emergency Program Coordinator in terms of what we might be able to offer for a similar situation in the future.

ARES-Manitoba
DEC Wayne Warren, VE4WR North Region and Special Projects

Rooftop antennas and support structures at VE4PSC have been installed and tested and will be used from now on. VE4PSC now has reliable HF telecom under almost all conditions on 40m, under most conditions on 75m, and has solid connections on VHF repeaters or via Simplex FM across a wide swath of Manitoba. The IRLP connection c/o VE4WSC provides a communication link to much of the settled world.

– Jan Schippers, VE4JS

Traffic Totals
November: 2
December: 0

ONTARIO NORTH:

SM: Al Boyd, VE3AJB
Email: ve3ajb@vianet.ca
STM: Pat Dopson, VE3HZQ
Email: dopsonp@vianet.ca
SEC: Dave Hayes, VE3JX
Email: ve3jx@bell.net
OBM: Paul Caccamo, VA3PC
Email: va3pc@ciinet.org
Website: http://ontario.racares.ca

NOVEMBER-DECEMBER SM REPORT:

Hello everyone. Brad Rodriguez, VE3RHJ, has acted as Ontario Bulletin Manager (OBM) for many years and has done an excellent job to bring the latest RAC and Amateur news to all of us. Brad has asked to stand down due to personal commitments. I know we will all miss Brad and we wish him all the best and hope he will return to the field services soon. I am happy to report that Paul Caccamo, VA3PC, has agreed to fill in and the quality of his first bulletin was excellent. Thanks Paul.

Here in the north, Dave Hayes, VE3JX, who has served as my SEC for the Northern Ontario Section, has also asked to step down for a while due to other commitments. Dave has done an excellent job with his reports and overseeing ARES groups in the north. Dave is one of the most dedicated members of RAC and gives all his best to whatever he does. I am going to miss Dave as he has been at my side supporting the program. He will be sadly missed by all. Good luck to Dave and I know he will return when his personal commitments are over. On a positive note Stiig Larson, VE3LBX, who is DEC for the Killarney region, has agreed to step into the SEC position. Thanks to Dave for his service and I look forward to working with Stiig.

As some of you may know, until the Ontario South and GTA Section Managers have been replaced I have agreed to serve as the Acting Section Manager in these areas. If you have any questions or concerns please feel free to contact me at any time. Once again thank you to all of you for your continued support for ARES and RAC.

ONN SEC Dave Hayes, VE3JX, reports: It has been over two years since I first took on this assignment. Shortly after the formation of the new Sections in Ontario, Ontario North (ONN) being one of them, Allan Boyd VE3AJB, our Section Manager, asked me to fill the job of SEC for this Section. For the two years I have held this position, I have thoroughly enjoyed working with Allan as our Section Manager and with all the other ARES individuals I have interfaced with.

Brent MacMillan VE3OTL, EC for Sault Ste Marie & Area reported a successful SET in the last issue. He notes that there were two participants who were left out of the report: John VE3KOQ and Elmer, VE3DYR. Both Brent, VE3OTL and Dave, VE3JX (ONN SEC) apologize for this oversight. Here is the complete list of SET participants: Brent, VE3OTL, Dave, VE3JX, Rolly, VE3RJ, Bob, VA3BZ, Dave, VE3DPT, Shawn, VA3SWN, John, VE3KOQ and Elmer, VE3DYR; with Tony, VE3DWI, in Desbarats acting as a relay station for communications with the PEOC in Toronto.

Dave Sutherland, VE3SUT, EC for Elliot Lake reports that they held their Christmas dinner on December 19 with 32 attending.

Jim McLean VE3LJM, EC for Manitoulin Island & North Shore reports that on November 4, SM Allan Boyd, VE3AJB and EC Jim McLean, VE3LJM, travelled to Espanola to give a presentation on ARES communications and its interoperability advantages in different situations. The meeting was attended by many first responders and CEMCs from the Espanola and North Shore area.

Members of the Manitoulin ARC attended the club's Annual General Meeting and were successful in signing up five new RAC members.

Alan Viitala, VE3AJV, EC for Sudbury, provided the following report about the Introduction to the Incident Management System course. "I did my IMS-100 four years ago and a few other Sudbury ARES members have done the course too. I have been talking about IMS at meetings since I became EC about four years ago."

Fred Lesnick, VE3FAL,DEC for Amethyst District, reports that the Lakehead Amateur Radio Club provided communications for the Salvation Army's annual Santa Shuffle. Fred also encourages:

"Have your 72-Hour Emergency Kit ready and a plan that is practiced on a regular basis for all types of emergencies."

While Fred, VE3FAL, is our ARES DEC for Amethyst District, he is also a SATERN Great Lakes DERT Team Member and the SATERN Great Lakes Liaison Officer.

– Allan Boyd, VE3AJB

DECs reporting:
VA3s: PC
VE3s: FAL, JX and LBX
ECs reporting:
VA3s: AJV, SPT
VE3s: EGC, LJM, OTL, MXJ, SUT

Official Bulletin Stations

Brad Rodriguez, VE3RHJ, OBM
November-December 2014
(ONS, ONE, GTA):
VE3GIO, VE3IQZ, VE3JUZ, VE3KII, VE3SHM and VE3VBR

ONTARIO EAST:

SM: Michael Hickey, VE3IPC
Email: ve3ipc@gmail.com
SEC: Vacant
STM: Vacant
OBM: Vacant
Website: http://ontario.racares.ca

NOVEMBER-DECEMBER SM REPORT:

The cold weather is behind us and the March thaw is taking hold – finally spring is in the air. Soon we will have a better chance to examine all antennas and coaxes to see if any work or improvements need to be made to repeater sites, ARES/EmComm clients site and, of course, at home.

This is a good time for your ARES / EmComm group to prepare for readiness and tabletop exercises, and or deployments that will better serve your local clients by working on lessons learned, thereby improving group capability.

If you are in an area that you feel needs an ARES EmComm group to serve your local municipal government – and or the local Red Cross – by all means do contact me and I will be glad to provide you with the needed support.

Eastern Ontario ARES District Coordinator Report

The Eastern Ontario ARES District was busy in November. DEC Lance, VA3LP, attended a meeting of the Almonte ARC Inc, which now seeks to be a separate ARES group from the Lanark-North Leeds (LNL) group. The LNL group has incorporated to have access to the RAC Insurance Program and so the groups have separated as it was not feasible to bring the LNL group under the Almonte ARC umbrella. The coming months will see the two groups discussing responsibilities in the LNL area.

HELP WANTED

The Ontario East Section is in need of someone to take on the position of **Ontario East Bulletin Manager** (OBM). Brad Rodriquez, VE3RHJ, has been the Official Bulletin Manager for all of Ontario for over a decade but he is stepping down due to personal commitments. My thanks go to Brad for providing his informative bulletins to Ontario so devotedly just like clockwork.

If you go to the http://ontario.racares.ca website and click on "Bulletins" at top of page, you will see the bulletins that Brad has been posting with contributions coming from various sources. If you can write and are enthusiastic about Amateur Radio and like to keep up with what's new and interesting, then you can easily fulfil this position and provide an important and necessary service. The weekly bulletins are sent to "registered" Official Bulletin Stations (OBS) who receive them by email from the Bulletin Manager so they can read "on air" at weekly club and or ARES nets.

This is a valuable and important service to all Radio Amateurs and provides a venue for timely, informative bulletins to be distributed far and wide. If you think you are interested, please contact me at ve3ipc@gmail.com and I will be glad to answer your questions and provide you guidance.

– Michael Hickey, VE3IPC, Ontario East Section Manager

Almonte ARC submitted by President Rob, VE3UIX

November was a busy month for the Almonte Amateur Radio Club's (AARC) and EmComm group. During the mid-summer months members removed the equipment from the repeater site nine kilometres southwest of Almonte (Union Hall) to allow major building renovations to take place. In early November we re-installed everything into its new room – not easy as all the antenna cables are hard line! As some readers may already know AARC decided to use D-STAR for its ARES operations and all modules (A: 23 cm; B: 70 cm; and C: 2m) are once more online (VA3AAR).

The FM repeater (147.240 +), which was previously installed at Union Hall, has now been moved to a new location four kilometres southwest of Almonte to improve the performance of that repeater (now on 147.270+ with a call of VA3ARE) as well as the Union Hall 2m D-STAR module. For about three years both were connected to a single two-bay antenna and incurred filtering losses resulting in degraded coverage.

A new D-STAR repeater, with 2m and 70 cm modules and Internet access, was installed near Rideau Ferry with the call sign VA3RDD. It provides coverage around the Rideau Lakes area. Thanks to Dale, VE3XZT and his family for making this happen. For a list of frequencies of this repeater, as well as all AARC repeaters, visit the club's website at http://www.almontearclub.ca.

A 70 cm repeater was installed at the site of repeater VE3STP at Kennelly Mountain near Renfrew to provide D-STAR coverage to the Ottawa Valley. This installation is unique in that it employs a link radio from Almonte to the STP site as no Internet service is available there. The link radio system allows D-STAR repeater access to reflectors etc. The frequency of the VE3STP D-STAR repeater is 443.60+ and it is usually linked to XRF018B. Thanks to Phil, VE3HOA, Rob, VA3JA, Dale, VE3XZT and Jeff, VE3EFF, for their efforts.

All of the D-STAR repeaters in the Ottawa area can be linked via a single reflector and result in coverage extending to the east of Ottawa as far as Rockland, west to north of Renfrew and south to Rideau Lakes, Westport and beyond.

The FM repeater VA3ARE mentioned above will be fitted with a new Yaesu Fusion repeater DR-1X in early December and will operate on both FM and C4FM (digital) modes. As far as we know this may be the first Yaesu Fusion repeater in the Ottawa area and it should be of interest to those hams that have compatible Yaesu radios.

At the AARC meeting in November, District EC Lance Peterson, VA3LP, met with the group and provided information and an update on ARES operations.

Lanark-North Leeds-ARES submitted by AEC Norm, VE3VY

The Lanark/North Leeds (LNL)-ARES group's most important activity in November was the effort involved in setting up incorporation for LNL-ARES Inc. This was necessary in order to have liability insurance to cover the more than seven repeater locations located on property owned by various other parties.

A mixed mode (voice/digital) exercise was held on November 26 involving six stations located in the Perth/Westport Area. It was an interesting and informative event leading to establishing an operational protocol.

Weekly nets continue on Wednesday evenings at 1800.

The annual Christmas get together was held on December 17 at the Cove Inn in Westport.

Ottawa ARES/EMRG Group submitted by AEC Mike, VE3FFK

The Ottawa ARES/EMRG Group conducted the usual monthly repeater tests on November 6 by Dave, VE3KMV, with the assistance of Ron, VA3ACZ, Arthur, VA3BIT, Tim, VA3PYC, Tracy, VA3TXN, Mike, VE3FFK and Stuart, VE3SMF. The improved turnout may be due to the temporary move to Thursday for the test. Everything went well, and an issue the previous week with the VE2CRA club repeater, which is included in the EMRG communications plan, had been fixed.

Three of our members – Tyler, VA3DGN, Mike, VE3FFK and Alan, VE3ZTU – also assisted with the Rally of the Tall Pines, along with 74 other hams from around Ontario and the Northeast US. At its peak there were four nets running simultaneously. Electronic logging was tried on this event for the first time. It was found that over 1,600 log entries were made. In addition several pages of log entries had to be made on paper since it turned out to be impossible to log more than one net at a time in one computer file. It was a good chance to experiment with logging a large complex event. Although they broke a lot of cars and sent two people to hospital for observation, everyone came home safely.

The Ottawa ARES/EMRG Group performed the usual monthly repeater test conducted on December 3 by Dave, VE3KMV, with checkins from Arthur, VA3BIT, Lance, VA3LP, Tracy, VA3TXN, Peter, VA3YOW, Sandy, VE3AAC, Mike, VE3FFK and Stuart, VE3SMF. Sandy reported that VA3EMV West repeater (145.210) occasionally locks up with a howling noise, including once before the test. The problem was not present during the test. Club repeater VE2CRA was operating well. The digital systems were working except for a one-day outage of the Winlink node VE3OCE-10 on both 145.030 and .010. Meanwhile, in addition to the monthly turning of calendar pages and battery charging, the start of the year is a good time to "catch up on back up". Not only your computers, but the telephone list from your phone, and your list of passwords kept in a secure place like the safety deposit box or an envelope at your relative's place. All this stuff changes over time and now would be a good time to review and update it.

PR-ARES Group submitted by GC Lance, VA3LP

The Prescott-Russell (PR)-ARES Group have been working to try and repair their two repeater systems in Prescott-Russell. VA3PRA RPT has been down for some time but the repaired Motorola is nearly ready to be installed. Although the transceiver is working well, there are still problems with the feedline and antenna from a lightning strike this past autumn. Since the weather has been poor in November and December, there has not been an available time to climb and investigate further.

In November, the group also had a project to build six antenna analyzers: the AAZ-0914A from Fox Delta. A "build day" was organized by Jim, VA3KV and those who purchased the kits, plus some onlookers, came out to watch them build. One did not work as advertised and is still being investigated. However, a lot about building electronic kits was demonstrated by the various builders and everyone learned something new that day. The builders were Jean, VE3OKK, Jean, VA3ZJS, Norm, VA3NPL and Harry, VA3ZAK. Two other young non-Amateurs, Cole and Clay, attended to watch and work on a couple of small FM projects. The group provided encouragement and advice to the boys and their project was also a success.

RCE-ARES Group submitted by GC Debra, VE3IEH

The Renfrew County East ARES Group's Coordinator (GC) Debra VE3IEH, is thrilled to report that the group's home repeater VE3STP has been joined by a new D-STAR repeater installation. The project was spearheaded by Champlain Regional Repeater Association (CRRA) member and Vice-President Rob, VE3JA, in conjunction with invaluable technical assistance provided by team members within the CRRA and subject matter experts in the Almonte ARC.

The AARC is quite invested in the technology and has enjoyed significant success with ARES exercises conducted in part using its D-STAR installation in the community. The repeater was installed by Rob, VE3JA and Rick, VA3RWH, early in the month at the STP site; thankfully on a mild and snowless day. Testing will be ongoing throughout the winter although D-STAR enthusiasts should note that the repeater is fully functioning at this time. For those who have D-STAR capabilities, the frequency being used is 443.6 (+5) and you are encouraged to give it a go.

Santa arrived early to deliver five surplus laptop computers to Debra, VE3IEH. These laptops are intended for use by RCE-ARES members who wish to set up packet radio stations in aid of communications that may be required during emergency exercises and/or actual deployments. The gifting township within Renfrew County has been thanked for its generous donation, but the group's GC wishes to make mention publicly in the pages of TCA. There is clearly a growing acknowledgement of, and commitment to, the principles and mandate of ARES within the first responder community.

RCW-ARES Group submitted by GC Bob, VE3YX

The Renfrew County West (RCW)-ARES Group held only three nets this month. Since two net nights fell on Christmas Eve and New Year's Eve, no attempt was made to have nets those days.

The ARES 2m antenna has been installed on the new Ontario Provincial Police building in Pembroke. The feedline terminates in one corner of the large board room which is intended to serve as the city's EOC. The setup of the EOC would have an office divider used to make a small area in the corner that we would use to set up communications. While we would like to be in an adjacent room, there is nothing available that can be used. We hope that a divider will suffice.

– 73, Michael Hickey, VE3IPC

Districts reporting:
ECs (GCs) reporting: VE3FFK, VE3YX, VA3LP, VE3IEH & Almonte ARC EmComm Group President, VE3UIX.

DECs reporting: VA3LP.

OBS reporting: VE3YX, VE3KII, VE3VY, VE3ZJS and VE3IQZ.

NEWFOUNDLAND AND LABRADOR:

SM: Vacant

NOVEMBER-DECEMBER SM REPORT:

There is not a lengthy report for the past two months as the busy fall turned into a slower push to Christmas and New Year's Eve.

I hope you enjoyed the religious and social aspect of the season and Santa rewarded you to the level expected for your behaviour during the year. I had two delightful Christmas dinners with the SONRA and AVRAC clubs. Great food and camaraderie; we should do more social get-togethers.

Congratulations are in order to Ira, VO1IRA, for winning the Cod Jigger Trophy outright this year and for not having to share it with Cal, VO1CAL, like he did last year. The Cod Jigger Net Manager, Bill, VO1WB, runs a contest that covers the three days of Christmas Eve, Christmas Day and Boxing Day.

Any morning controllers who wish to participate make their intentions known to Bill and, from those interested, he chooses by draw, the three controllers to cover off those mornings. The controller who scores the most checkins on the appointed day walks off with his/her name added to the Cod Jigger Trophy and a personalized wall plaque.

The Trophy is really a history lesson of personalities from the NL Section, having originated with Bill Wilson, VO1TX (now a Silent Key) many years ago when he lived in Garnish on the Burin Peninsula. Chris, in St. Anthony, now has that call sign and each time he uses it, I am reminded of Bill, a neighbour of my family and a "character" himself.

The normal December operations – including the annual December 12 operations and "Signals to Santa" for the kids – were not held. Cabot Tower and the surrounding facilities fall under the jurisdiction of Parks Canada and the facilities were closed earlier in the year than normal due to budget concerns. It was a disappointment indeed, but in these times of fiscal restraint it is understandable.

There has been a resurgence in the use of CW as a mode for checkins on the Evening Traffic Net. This is very pleasing and has inspired a number of us to try CW. Controllers Carl, VO1UL, Dave, VO1VCE and Ira, VO1IRA, all proficient in CW, have been patient and inviting and that reduces the hesitance on new hams to try something new. Not being critical of new Amateurs helps them to become more comfortable and try different things. A welcoming approach goes a long way.

That's it for the past two months. Remember, Amateur Radio is a hobby, have fun with it. And, in the words of Bas Jamieson, an old NL commercial broadcaster, "Be nice to someone, you'll feel better for it".

Charlie Marsh, VO1VZ
NL Section Bulletin Editor

Cod Jigger
November 354
December 435
Evening
November 936
December 867

RAC FIELD ORGANIZATION REPORTS

National Traffic System (NTS) Net Reports

Net (Manager)	Sessions	QNI	QTC
November 2014:			
APSN (VA6IX)	30	1265	17
Aurora	30	2568	0
BCEN (VE7XLH)	31	202	29
BCYTN (VE7WJ)	31	438	54
Laurentian	30	434	0
MEPN (VE4JS)	30	782	0
MMWXN (VA4GD)	30	505	0
MRS (VE4HK)	9	239	0
MSMN (VE4AEW)	20	557	0
OPN (VE3XRC)	33	338	35/35
Sask ARES	8	144	7
December 2014:			
APSN (VA6IX)	31	1324	24
Aurora	31	2636	0
BCEN (VE7XLH)	31	226	36
BCYTN (VE7WJ)	31	468	48
Laurentian	31	383	0
MEPN (VE4JS)	31	762	2
MMWXN (VA4GD)	31	539	0
MRS (VE4HK)	7	207	0
MSMN (VE4AEW)	23	633	0
OPN (VE3XRC)	31	82	26
Sask ARES	8	129	8

COMING EVENTS

THE HAMFEST AND FLEAMARKET CALENDAR

The following events are listed by date. Some dates and details are tentative. For more Hamfests and Fleamarkets please go to http://rac.eton.ca/events/upcoming.php

HAM-EX 2015

Sponsors: Peel Amateur Radio Club and the Mississauga Amateur Radio Club

Date: Saturday, March 28.

Time: Vendors 7 am; Exhibits/ Demonstrations 8 am; Fleamarket: 9 am to 1 pm.

Place: Caledon, Ontario; at the Brampton Fall Fairgrounds 12942 Heart Lake Road.

Cost: Public $7.

Talkin: VE3PRC 146.880 (no tone) and VE3MIS 145.430 (103.5 Hz tone required)

Info: Contact parc.pubrel@gmail.com

Web: http://www.ham-ex.ca

18TH ANNUAL IROQUOIS FLEAMARKET

Sponsor: Iroquois Amateur Radio Club

Date: Saturday, April 4.

Time: Vendors 8 am; Public 9 am.

Place: Iroquois, Ontario; at the Iroquois Civic Building, 1 Dundas Street.

Cost: Admission is free; Table rental $10.

Talkin: 145.29(-)

Info: For table rental contact Mike at va3tufham@aol.com or Don at va3nc@rac.ca.

WINNIPEG ARC SPRING FLEAMARKET

Sponsor: Winnipeg Amateur Radio Club

Date: Sunday, April 12.

Time: Coffee, muffins, eyeball QSOs 9:30 am; Vendors: 9:45 am to 10:30 am.
Public: 10:30 am. Prize Draws: 11:30 am.

Place: Winnipeg, Manitoba; at the Heritage Victoria Community Club, 950 Sturgeon Road.

Description: Opportunity to buy and sell new and old equipment of interest to Amateurs. Also, the best chance for new hams to meet oldtimers and learn more about our hobby.

Cost: $5 per person, exact change preferred. Tables: $5 each for WARC members, $10 for everyone else. To book your table contact Ruth, VE4XYL, at ve4se@mymts.net or 204-837-6915.

Talkin: 147.390 MHz + offset 127.3 tone

Info: For further information, Dick Maguire VE4HK ve4hk@rac.ca or 204-256-3143.

Web: http://winnipegarc.org/flea_market.html

39TH ANNUAL DURHAM REGION HAMFEST

Sponsors: North Shore Amateur Radio Club and South Pickering Amateur Radio Club

Date: Saturday, April 18.

Time: Vendors 7:30 am; Public 9 am to 1 pm.

Place: Pickering, Ontario; Pickering Recreation Complex, 1867 Valley Farm Road. Free coffee and tea. Snack bar available.

Cost: Public $7. Tables (pre-registration only): Hard wall $50; Interior aisles $25; AC hookups $5. Make cheques (no post dated) payable to Durham Region Amateur Radio Hamfest,
PO Box 53 Pickering, ON L1V 2R2.

Info: Hamfest chairperson Alex Keller, VE3ZSH ve3zsh@nycroth.com; Dave Dempsey, VE3EAB ddempsey@barrikin.com.
Table/Registration Coordinators: Dave Dell, VE3GUD at midnightexp@teksavvy.com;
Steve McEdwards, VA3TPS at mcfido@bell.net

Talkin: VE3SPA 147.375 +

Web: www.durhamregionhamfest.com

NEAR-FEST XVII

Sponsor: New England Amateur Radio Festival, Inc.

Date: Friday, May 1 and Saturday, May 2.

Time: Gates open at 9 am Friday for sellers and buyers.

Place: Deerfield, New Hampshire, USA
The Deerfield Fairground is located on Route 43 approximately 15 miles NE of Manchester NH. GPS coordinates: N42d 5m 57.4" W71d 14m 33.5s (Lat 43.099286 Lon -71.242663).

Description: NEAR-Fest XVII is a "FreeFester" to thank our loyal attendees for supporting us for the past eight years. There will be three huge buildings full of commercial vendors and dealers offering everything from the latest in radio equipment, books and accessories.

Cost: Public free; $10 per vehicle; camping fees are $30 a night; tent sites are $15.
All overnight fees are payable to the Deerfield Fair Association.

Talkin: K1JEK/RPT 146.700 MHz (-600 PL 88.5) 146.52 direct 3.885 MHz Tune your car radio to FM 95.1 or AM 650 for continuous hamfest news and entertainment.

Info: contact W1RC@near-fest.com

Web: http://www.near-fest.com/

SIMCOE COUNTY HAMFEST

Sponsors: Barrie Amateur Radio Club and the Junk in the Trunk Event Newmarket

Date: Saturday, May 2.

Time: Public 7:30 to 11:30 am; Vendors set up inside or out! Bring a table for your set up.
Rain or Shine.

Place: Grenfell, Ontario (southwest of Barrie; at the Grenfell Community Centre / Arena, 1989 Sunnidale Road. Quick access to Highway 400.

Description: Indoor/Outdoor Hamfest
Bring any or all of your surplus radio related items. Coffee and snacks will be available.

Cost: Public free! Vendors/tailgators $7.

Talkin: 147.000 + Tone 156.7.

Info: Mike, VE3MKX, at mkx@bell.net.

Web: http://www.barriearc.com/

MAPLE RIDGE SWAP MEET

Sponsor: Maple Ridge Amateur Radio Club

Date: Sunday, May 3.

Time: Vendors at 7:30 am; Public 9 am.
Open for pancake breakfast 8 am. Concession will remain open during the event.

Place: Pitt Meadows, British Columbia; 12460 Harris Road, one Block South of the Lougheed Highway in the old REC Building.

Description: Ham Radio & Computer Swapmeet. The largest in the Fraser Valley. Great prices lots of stuff.

Cost: Public $5 (includes a chance to win a radio); Tables $20 (includes one entry and a chance to win a radio).

Talkin: 146.800 -600 + Tone 156.7

Info: Call Nick at 604 465-9476 or contact ve7te@mrarc.net.

Web: http://www.mrarc.net

31ST SMITHS FALLS FLEAMARKET

Sponsor: Rideau Lakes Amateur Radio Club

Date: Saturday, May 9.

Time: Vendors 7 am; Public 9 am.

Place: Smiths Falls, Ontario; at the Smiths Falls Curling and Squash Club (same location as last year), on Old Sly's Road.

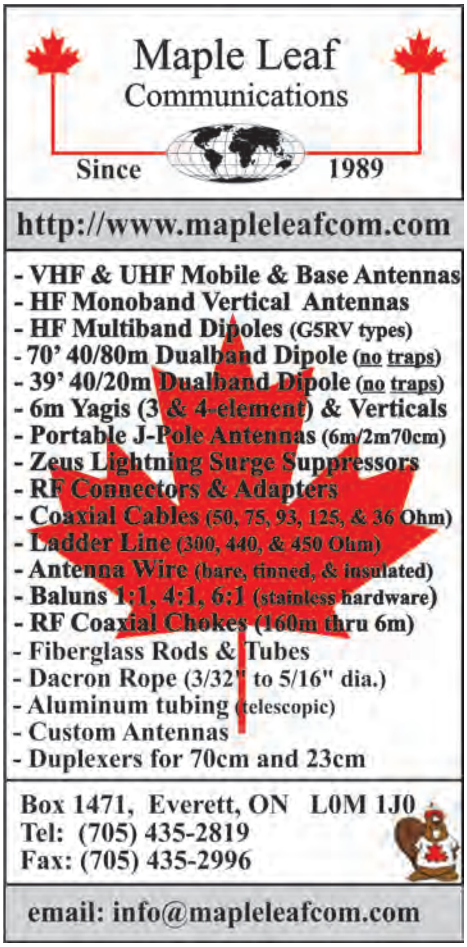
Description: Our 31st Annual Fleamarket of Amateur Radio equipment includes a large number of Commercial and Private Vendors, a Canteen, a Consignment Table and an Equipment Test Table.

Cost: Vendors: Tables (Approx. 2 1/2 X 5 ft) $10 (admission not included).
Admission: $5 (includes a door prize ticket).
Youth under 16 are admitted Free of Charge.

Talkin: VE3RLR on 147.21 MHz+.

Info: For more information or reservations, contact ve3rlr@gmail.com.

Web: http://ve3rlr.dyndns.org



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- Coaxial Cables (50, 75, 93, 125, & 36 Ohm)
- Ladder Line (300, 440, & 450 Ohm)
- Antenna Wire (bare, tinned, & insulated)
- Baluns 1:1, 4:1, 6:1 (stainless hardware)
- RF Coaxial Chokes (160m thru 6m)
- Fiberglass Rods & Tubes
- Dacron Rope (3/32" to 5/16" dia.)
- Aluminum tubing (telescopic)
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Tel: (705) 435-2819
Fax: (705) 435-2996

email: info@mapleleafcom.com

ANNUAL GENERAL MEETING – BCARCC

Sponsor: British Columbia Amateur Radio Coordination Council

Date: Sunday, May 31.

Time: Registration 9 am; AGM: 10 am to 12:30.

Place: North Vancouver, British Columbia; North Shore Emergency Management Office, 147 E. 14th Street (2nd floor of RCMP Building) Hosted by North Shore Amateur Radio Club

Cost: 2015 Membership dues of $20 per delegate should be mailed to Treasurer Brian Summers, VE7JKZ, 10640 Sceptre Crescent, Richmond, BC V7E 2A7.
Download membership renewal form from website.

Info: Contact Secretary Ed Frazer, VE7EF, at 604-921-6614 or ve7ef@rac.ca.

Talkin: VE7NSR 147.26 MHz +600 No Tone.

Web: http://www.bcarcc.org

QUEBEC HAMFEST 2015

Sponsor: Club Radio Amateur VE2CBS Sorel-Tracy inc.
Date: Sunday, May 31.
Time: Inside Vendors 6 am; Public 7 am to 12 noon. Snack bar ready to serve you.
Place: Sorel-Tracy, Quebec; 200 rue Victoria.
Cost: $8 (free at 11 am); Vendors: Inside tables $15 includes one admission.
Talkin: Listen to the VE2RBS repeater on 145.370 (CTCSS 103,5). VA2CST-C 146.985 MHz - DV, VE2FCT-B 446.250 M - DV.
Info: Contact ve2cbs@raqi.ca.
Web: http://www.hamfest.qc.ca/

CENTRAL ONTARIO HAMFEST/ FLEAMARKET

Sponsors: Guelph Amateur Radio Club & Kitchener-Waterloo Amateur Radio Club
Date: Sunday, June 7.
Time: Vendors 7 am; Public 9 to 12 noon.
Place: Cambridge, Ontario; Waterloo Regional Police Association Recreation Centre, RR2, 1128 Rife Rd. North Dumfries Township Location: 43.344939, -80.418376
Description: 41 years and still going strong. Indoor tables and tailgating; major vendors, loads of collectibles; free prize draws, tasty refreshments. Easy parking.
Cost: General Admission $7 (under 12 free) Vendors: Inside 8-foot tables $20 includes one admission. Additional inside tables $13. Tailgater spaces $15 includes one admission. Additional Tailgate Pads $8.
Talkin: VE3KSR repeater on 146.970 (CTCSS 131.8) and 146.520. Simplex range switch to 146.520 and listen as above.
Info: Nick Waterman, VE3NNW by phone at 519-884-3760 (evenings & weekends only), email to info@hamfest.on.ca
Web: http://www.hamfest.on.ca

CVRS ANTIQUE RADIO SWAPMEET

Sponsor: Canadian Vintage Radio Society
Date: Sunday, June 7.
Time: 12 noon until 2 pm.
Place: Burnaby, British Columbia; Charles Rummel Park corner of Lozells Avenue and Government Road.
Description: Antique Radio Swap Meet, Radios, Parts, Tubes, Books etc.
Cost: Free admission, Free sellers tables
Web: http://canadianvintageradio.com/contact/

52ND INTERNATIONAL HAMFEST

Date: Saturday, July 11.
Place: US Lodge in the International Peace Garden; south of Brandon on the Canada-US border.
Description: Fleamarket. Rabbit Hunts. Prizes. Mobile Judging. Food Concession. Homebrew Contest. Saturday night Dance. Free Saturday lunch for those registered. Campers please identify yourself at the gate for special camping rates.
Cost: Registration fee is $15 per person.
Info: Richard Holder, VE4QK, ve4ihf@mts.net 204-268-1702
Web: www.mts.net/~holderr/ihf.htm

7TH ANNUAL JUNK-IN-THE-TRUNK EVENT

Date: Saturday, August 22.
Time: 7:30 am until 12 noon.
Place: Newmarket, Ontario; in the paved parking lot of the Newmarket Theatre at 505 Pickering Crescent near Leslie Street and Mulock Drive.
Description: Junk in the trunk outdoor Amateur Radio Garage Sale Hamfest. Bring any or all of your surplus radio related items. Great Venue. Rain or Shine. Over 45 vendors attended last year!
Cost: Free admission; Vendors $5 per space per car and additional spaces $5.
All money is donated to the Newmarket Theatre group.
Talkin: 146.520 local repeater is 147.225
Info: Nick, VE3NJG at nickve3njg@rogers.com or Mike, VE3MKX at mkx@bell.net
Web: http://ontarioswapshop.com

OTTAWA (CARP) 18TH ANNUAL HAMFEST

Sponsor: Ottawa Amateur Radio Club, Inc.
Date: Saturday, September 12.
Time: Vendors 7:30 am; Tailgaters: 8 am. Indoor Fleamarket open: 9 am to noon.
Place: Ottawa (Carp), Ontario; Carp Agricultural Fairgrounds, 3832 Carp Road
(in the W. Erskine Johnston Arena at the north end of the fairgrounds).
Description: The region's largest fleamarket and hamfest. All of the big Ham Radio retailers are going to be there! Major door prize draws! Breakfast, coffee, and lunch concession. Volunteer organizations and displays. Onsite Amateur Radio licence exams. Get your licence, or upgrade during the hamfest! Note: if you are upgrading, bring the 11-digit certificate number on your licence to speed processing.
Cost: Public $6; Tables $12 plus admission, $5/tailgate (plus admission). Please book tables early to ensure a reservation.
Talkin: VE2CRA, 146.94-, 100 Hz
Info: Ed Sich, VE3WGO, phone or text msg to: 613-853-2281, fleamarket at oarc.net
Web: http://www.oarc.net/fleamarket

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HARC HAMFEST 2015

Sponsor: Hamilton Amateur Radio Club
Date: Saturday, October 3.
Time: Public 9 am; Vendors 7 am.
Place: Ancaster, Ontario; Ancaster Fair Grounds in the School Fair Building, 630 Trinity Road.
Description: An Amateur Radio, computer, and electronics fleamarket. Parking and Mobile food truck onsite.
Cost: Public $7; Tables $12 each.
Mail payment to: The Hamilton Amateur Radio Club, 117-350 King Street East, PO Box 75073, Hamilton, Ontario L8N 4G6. Tables are reserved upon receipt of payment on a first come basis. Please book in advance to avoid disappointment.
Talkin: 146.76 (-) with tone 131.8 VE3NCF
Info: General info: Paul Fleck, VE3HTF ve3htf@hamiltonarc.ca or 289-431-1030
Vendor liaison: Mardy Eedson, VE3QEE ve3qee@hamiltonarc.ca or 905-648-0187
Web: http://www.hamiltonarc.ca

COMFEST 2015 SWAP MEET

Sponsor: Delta Amateur Radio Society
Date: Sunday, October 4.
Time: Doors open to the public at 10 am.
Place: Delta, British Columbia; Just south of highway 17 and 56th Street in Tsawwassen.
Cost: Public $5 per person.
Info: Contact gi@deltaamateurradio.com
Web: http://www.deltaamateurradio.com

MONTREAL SOUTH SHORE HAMFEST

Sponsor: Club Radio Amateur Rive-Sud de Montréal
Date: Saturday, October 17.
Time: Vendors 6 am; Public 9 am.
Place: Longueuil, Quebec (10 minutes from downtown Montreal); Place Desaulniers, 1023 Taschereau Boulevard.
Description: The biggest Hamfest in Quebec. Restaurant. Free parking. ATM onsite Accessible to handicapped persons.
Cost: Public $7; Table $10 (admission not included).
Talkin: 145.390 MHz (-) 103.5 Hz, VE2RSM
Info: Noël Marcil, VE2BR, 450-691-2009 or hamfest@ve2clm.ca
Web: http://www.ve2clm.ca/articles.php?lng=fr&pg=120

TCA

SPECIAL EVENT STATION OT70BULGE

On December 16, 1944 the Battle of the Bulge began in the Belgian Ardennes. On March 24, 1945 there was a huge airborne landing called Operation Varsity and Operation Plunder to cross the Rhine in Wesel, Germany.

A special event Amateur Radio station OT70BULGE will be on the air on March 22, 2015 to commemorate the 70th anniversary of both of these historic events.

For more information visit:
http://www.qrz.com/db

The station will be on the air to make as many contacts as possible from all over the world and will confirm every contact with a special QSL card. The station will start around 10 am local time and will work in SSB and CW on the bands 10, 15, 20, 40 and 80 metres.

In addition, American veterans and many of their sons and daughters and other relatives will travel to Bastogne, Belgium and Wesel, Germany to walk in their father's footsteps and remember the 70th anniversary of these battles and the loss of so many lives.

RADIO AMATEURS OF CANADA — MAPLE LEAF LEGACY CIRCLE
RADIO AMATEURS OF CANADA — CERCLE DES LÉGATEURS MAPLE LEAF

Your Personal Legacy: Making A Difference for the Future of Amateur Radio

RAC would like to recognize and honour Amateur Radio operators who have made the ultimate gift by voluntarily including Radio Amateurs of Canada in their will or other estate plans by welcoming them into the RAC Maple Leaf Legacy Circle.

RAC

Maple Leaf Legacy Circle

One of the most important matters that everyone must manage and establish at some point in life is proper financial due diligence in estate planning for your family and loved ones.

One may also choose to express their gratitude to those organizations that meant the most to you in your life.

RAC is well aware of many testimonials whereby Amateur Radio played a very important role in many people’s lives as a fulfilling hobby and for some it even became a stepping stone to their financial success in professional life.

Choosing to enroll in this RAC program is a very thoughtful and generous action we wish to recognize.

RAC Maple Leaf Legacy Circle Benefits:

- Custom-designed RAC Maple Legacy Circle pin with engraved call sign
- RAC automobile window decals and various RAC store items
- Personalized certificate (signed by the RAC President)

Contact RAC for further information:

1-877-273-8304 – raccomms@gmail.com

The Radio Amateurs of Canada Inc., is a not-for-profit organization holding the following registration information:

Corporation Number 2858592
Business Number (BN) 899715189RC0001
Governing Legislation Canada Corporations Act

Votre Legs Personnel : Assurer pour longtemps un meilleur avenir au radioamateurisme

RAC

Cercle légateurs Maple Leaf

RAC aimerait rendre hommage aux radioamateurs qui ont décidé de faire de Radio Amateurs of/du Canada un de leurs légataires légaux par l’expression testamentaire de leur volonté ou autrement, et ce en leur souhaitant la bienvenue dans le Cercle des légateurs Maple Leaf de RAC.

Une des choses les plus importantes que chaque personne a à décider et gérer à un moment donné de sa vie est la juste valeur des biens et immeubles qu’il souhaite léguer à sa famille et à ceux qu’il aime.

Vous pouvez aussi choisir d’exprimer votre gratitude envers des organisations qui signifient beaucoup pour vous.

RAC est bien conscient des multiples facteurs qui démontrent le rôle très important que le radioamateurisme joue dans la vie de beaucoup de personnes à titre de hobby principal et, pour plusieurs, jusqu’à devenir une rampe de lancement pour leur succès financier et leur vie professionnelle.

Choisir d’adhérer au programme de RAC est donc une difficile mais généreuse décision. Nous le reconnaissons.

Les bénéfices du Cercle des légateurs Maple Leaf de RAC :

- Épinglette du Cercle des légateurs Maple Leaf gravée à votre indicatif d’appel
- Collants automobile RAC et divers items RAC
- Certificat personnalisé (signé par le président de RAC)

Communiquez avec RAC pour plus d’informations :

1-877-273-8304 – raccomms@gmail.com

Radio Amateurs of/du Canada inc. est une organisation sans but lucratif enregistrée sous les désignations et numéros suivants :

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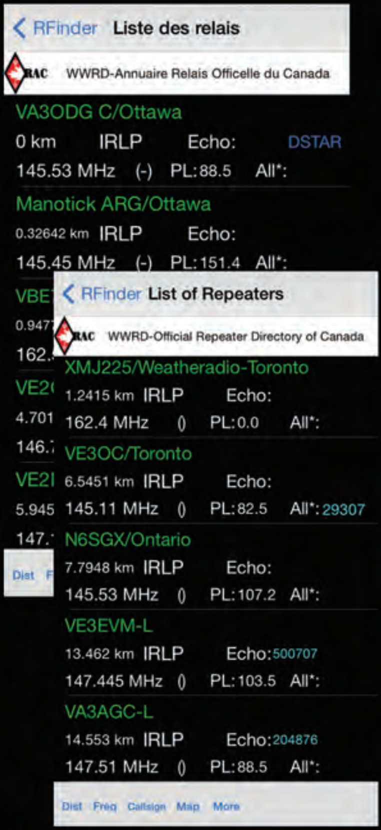


RFinder Liste des relais

RAC WWRD-Annuaire Relais Officelle du Canada

VA3ODG C/Ottawa
0 km IRLP Echo: DSTAR
145.53 MHz (-) PL:88.5 All*:

Manotick ARG/Ottawa
0.32642 km IRLP Echo:
145.45 MHz (-) PL:151.4 All*:

RFinder List of Repeaters

RAC WWRD-Official Repeater Directory of Canada

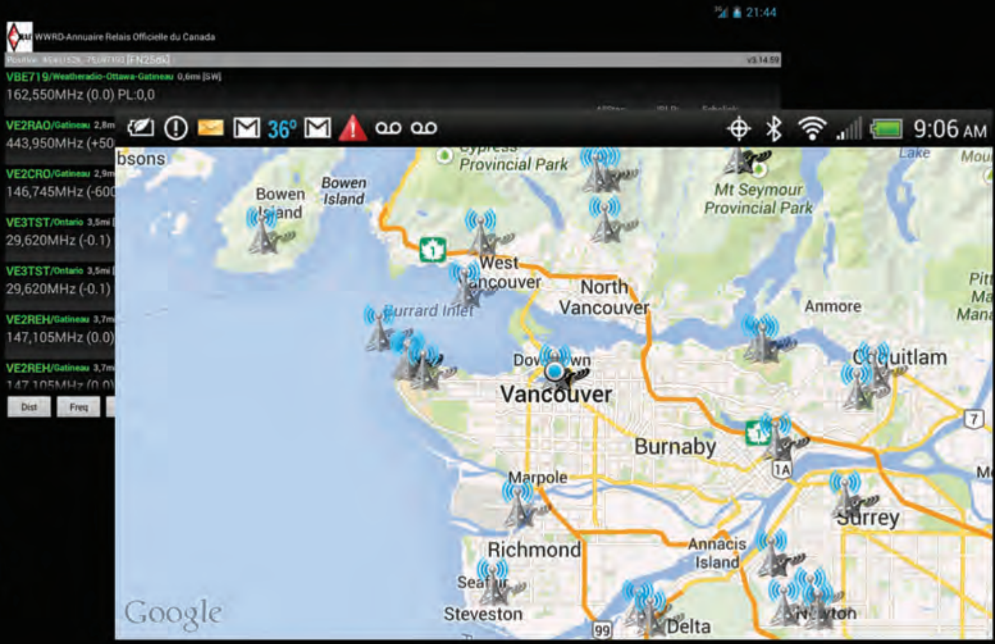
XMJ225/Weatheradio-Toronto
1.2415 km IRLP Echo:
162.4 MHz () PL:0.0 All*:

VE3OC/Toronto
6.5451 km IRLP Echo:
145.11 MHz () PL:82.5 All*:29307

N6SGX/Ontario
7.7948 km IRLP Echo:
145.53 MHz () PL:107.2 All*:

VE3EVM-L
13.462 km IRLP Echo:500707
147.445 MHz () PL:103.5 All*:

VA3AGC-L
14.553 km IRLP Echo:204876
147.51 MHz () PL:88.5 All*:



WWRD-Annuaire Relais Officielle du Canada

VBE719/Weatheradio-Ottawa-Gatineau 0,6mi [SW]
162,550MHz (0.0) PL:0,0

VE2RAO/Gatineau 2,8m
443,950MHz (+50

VE2CRO/Gatineau 2,9m
146,745MHz (-60

VE3TST/Ontario 3,5mi
29,620MHz (-0.1)

VE3TST/Ontario 3,5mi
29,620MHz (-0.1)

VE2REH/Gatineau 3,7m
147,105MHz (0.0)

VE2REH/Gatineau 3,7m